UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL CLEANUP

March 5, 2012

Ms. Cindy O'Hare
Naval Facilities Engineering Command Northwest
1101 Tautog Circle
Silverdale, Washington 98315-1101

Dear Ms O'Hare:

The Environmental Protection Agency has reviewed the Third Five Year Review for the Former Naval Complex, Adak, Alaska, which was signed by the U.S. Navy on December 13, 2011. The EPA is encouraged by the progress the Navy has made in implementing the recommendations set forth in previous Five Year Reviews. This Five Year Review covers all Operable Units at Adak (OU A, OU B-1, and OU B-2).

The EPA reviewed the document for technical adequacy, accuracy, and consistency with the EPA guidance. The document provides a generally clear summary of the status of individual sites. It also identifies a number of actions to be taken that affect the protectiveness of the selected remedies and documents a schedule for completion of the recommended actions. However, all but one of the recommendations and follow-up actions in the report relate to the actions the Navy is taking to address petroleum and petroleum–related releases pursuant to State authority, which are not considered or tracked by the EPA as CERCLA actions. The EPA's review and focus is on the protectiveness of the CERCLA actions, and is only tracking and reporting on the single CERCLA-related issue (Item 3 in Table 8-1 of the Third 5 Year Review), recommendation and follow-up action identified in the Report as potentially affecting protectiveness.

Based on the EPA's review of the 2011 Third Five Year Review and other knowledge and documents regarding the site and remedies, and consistent with the EPA's "Comprehensive Five Year Review Guidance, July 2001", the EPA concurs with the Navy's determinations as follows:

<u>Operable Unit A</u>: the EPA shall report to Congress that the remedy for OU-A is expected to be protective of human health and the environment and in the interim exposure pathways that could result in unacceptable risks are being controlled.

<u>Operable Unit B-1</u>: the EPA shall report to Congress that the remedy at OU B-1 is expected to be protective of human health and the environment and in the interim exposure pathways that could result in unacceptable risks are being controlled. The final determination of protectiveness cannot be made until the Navy receives approval on a Partial Remedial Action Completion Report for OU B-1. The current planning date for that completion is February 2013.

The EPA's report to Congress will not address OU B-2 because a remedy has not been selected for this Operable Unit. While the EPA Five Year Review Guidance does say that at the Region's discretion the Five Year Review may also include and consider areas of a site where no remedial action has been selected or initiated, it is not appropriate to make a protectiveness determination prior to remedy selection. A Record of Decision for OU B-2 is scheduled for signature by October 9, 2013. The U.S. Navy is responsible for controlling access to the property and controlling (preventing) human exposure until at least that date.

The EPA shall track the CERCLA Findings/Follow up Actions identified by the Navy as potentially affecting protectiveness. Those findings were limited to missing "no excavation" signs at SWMU 10 and 14. The EPA requests the Navy notify the EPA when these signs are installed. The EPA looks forward to working with the Navy and the Alaska Department of Environmental Conservation on implementing the follow up action and on selecting a remedial action for OU B-2.

The EPA has a goal of "harmonizing" our respective schedules for completing and approving Five-Year Reviews. Therefore, the EPA shall plan and report that the next Five-Year Review will be completed by March 7, 2017. Ideally the EPA will complete and approve the subsequent Five-Year Review by December 13, 2022, which is the Navy's statutory deadline for completing Adak's Five-Year Reviews.

Finally, the August 1 Program Policies memorandum also calls for a summary of the EPA Superfund Sitewide Environmental Indicator Status for Sites undergoing Five-Year Reviews, which are as follows:

> The Superfund Sitewide Human Exposure Environmental Indicator Status for the Site remains "Current Human Exposure Under Control" because of the remedies implemented to date, including engineering and institutional controls. To ensure this indicator remains "Under Control" for the long term, the follow-up actions recommended in this review need to be completed.
>
> The Groundwater Migration Environmental Indicator Status for the Site remains "Groundwater Migration Under Control" based on the work done to date and confirmed in the Five Year Review.

If you have questions concerning this letter, please contact the EPA's site manager for this review, Christopher Cora, at (206) 553-1478 or by email at cora.christopher@epa.gov.

Sincerely,

Cami Grandinetti

Cami Grandinetti
Program Manager
Remedial Cleanup Program

Enclosure

cc: Ms. Jennifer Roberts
Alaska Department of Environmental Conservation

Merry Maxwell
U.S. Department of Interior – Fish and Wildlife Services

Ms. Diane Soderland
EPA Alaska Operations Office

FINAL
31 OCTOBER 2011

Third Five-Year Review

Former Adak Naval Complex
Adak, Alaska

Department of the Navy
Naval Facilities Engineering Command Northwest
1101 Tautog Circle
Silverdale, WA 98315

EXECUTIVE SUMMARY

As lead agency for environmental cleanup of the former Adak Naval Complex, Adak Island, Alaska, the U.S. Navy has completed this third 5-year review of the remedial actions at Operable Unit A (OU A) and OU B-1 conducted pursuant to Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act and the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations Part 300). Progress towards remedy selection for OU B-2 sites was also reviewed. The purpose of this 5-year review is to ensure that the remedial actions selected in the Records of Decision (RODs) for OU A and OU B-1 at Adak remain protective of human health and the environment. This review is required because contaminants have been left at Adak above levels that allow for unlimited use and unrestricted exposure. This third 5-year review was prepared in accordance with the *Navy/Marine Corps Policy for Conducting Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Five-Year Reviews* (U.S. Navy 2011h) and the U.S. Environmental Protection Agency's *Comprehensive Five-Year Review Guidance* (USEPA 2001). This review is considered a statutory, rather than a policy, review. The triggering action for this review was the execution by the U.S. Navy (Navy) of the second 5-year review on December 13, 2006. This review is required because contaminants have been left at Adak above levels that allow for unlimited use and unrestricted exposure. In accordance with Navy guidance, this review covers the entire former Adak Naval Complex, including both CERCLA and non-CERCLA sites. This review also provides a summary of progress on sites and OUs without RODs or state decision documents to ensure a comprehensive review. This 5-year review evaluates data collected at the site during the 2006 through 2010 field seasons.

This 5-year review concludes that the remedy is functioning as intended by the OU A ROD and the State-Adak Environmental Restoration Agreement (SAERA) decision documents for all but four of the 179[1] OU A and post-ROD sites on Adak. All of the remedy components required by the OU A ROD have been implemented and are functioning as intended by the ROD, with the exception of four sites discussed in Section 7.1 of this 5-year review and mentioned below under the protectiveness discussion. The landfill caps and covers have been constructed and are regularly inspected and maintained. The ponds at SWMU 17, Power Plant No. 3, have been drained, dredged, and restored. Impacted sediment has been removed from South Sweeper Creek, and limited soil removals have been completed at all of the petroleum sites selected for this remedy component. Interim remedial action product recovery has been performed at the 14 free-product recovery petroleum sites.

[1]This includes 62 petroleum sites removed from the OU A ROD and the Tango Pad site.

An Institutional Control Management Plan (ICMP) is in place, and institutional control (IC) inspections occur annually. Deficiencies are identified and corrective action is consistently taken. The inspection and associated follow-up is functioning as intended. Long-term monitoring has been initiated and is ongoing. The long-term monitoring goals and requirements are periodically revisited to maintain focus on the endpoint goals. The Navy and U.S. Geological Survey have shown that natural attenuation of petroleum compounds continues to occur on Adak, and natural attenuation monitoring is part of the long-term monitoring program. Where the data support a quantitative estimate, it appears that natural attenuation can be reasonably expected to achieve endpoint criteria within 75 years of ROD execution.

The final remedy established under SAERA decision documents and the additional actions required by those documents have been implemented at all of the 14 free-product sites. Limited groundwater monitoring, implementation of ICs, and monitored natural attenuation have been implemented where required through adjustments to the Comprehensive Monitoring Plan.

This 5-year review also concludes that the OU B-1 remedy is functioning as intended by the OU B-1 ROD. The selected remedies have been implemented at all of the 50 action sites identified in the OU B-1 ROD, although the remedy cannot be considered complete at all 50 sites until all documentation is complete and concurrence from the regulatory agencies is received. Complete documentation and final regulatory concurrence will be assembled as part of the preparation of the remedial action completion report. Conditional closure has been achieved for 18 of the 50 sites.

Changes in the applicability or relevant and appropriate requirements (ARARs) or exposure and toxicity assumptions that have occurred since the RODs and SAERA decision documents were signed do not affect the protectiveness of the remedies. Concentrations of many chemicals in groundwater remain above the remediation goals (RGs) within the downtown area of Adak at the majority of locations where long-term monitoring is occurring. This results in the need for continued ICs to prevent exposure and ongoing monitoring. Although some of the RGs might be lower if selected today, the remedy components continue to protect against exposures, just as they did at the time the ROD was signed. ICs preventing exposure and ongoing monitoring will need to continue until concentrations of chemicals of concern in groundwater are below the RGs.

The protectiveness of the remedies for the OU A sites is discussed in this report by grouping the sites into categories of protectiveness. Of the 179[2] OU A and post-ROD sites, 175 fall into the categories of either “remedy is complete and protective,” or “remedy is operating and is expected to be protective. Three sites fall into the category of “not protective, unless follow-up actions are

[2]This includes 62 petroleum sites removed from the OU A ROD and the Tango Pad site.

taken to ensure protectiveness."[3] Sites in these three categories are listed by name in Section 9 of this 5-year review.

The OU A remedy remains protective for the 138[4] sites where the remedy is complete and Alaska Department of Environmental Conservation (ADEC) has concurred with a status of No Further Action (NFA) or No Further Remedial Action Planned (NFRAP). At these sites, the NFA status selected in the ROD, the NFA/NFRAP status achieved post-ROD, or the completeness of the remedy are not called into question by new information, including changes in ARARs or risk assessment assumptions.

The OU A remedy for 39 sites is expected to be protective when the operating OU A remedy (monitored natural attenuation in many cases) is complete. In the interim, exposure pathways that could result in unacceptable risks are being controlled through implementation of the ICMP.

The remedies for the three OU A sites listed below are concluded not to be protective, unless the actions identified in Section 8 of this 5-year review are taken to ensure protectiveness. Note that these sites have been removed from the OU A ROD and are now regulated under SAERA (see Section 2 of this 5-year review).

- Former Power Plant, Building T-1451
- SWMU 60, Tank Farm A
- NMCB Building Area, T-1416 Expanded Area

At these sites, trends in product thicknesses observed in surface water protection wells, or ongoing impacts to adjacent surface water call into question the protectiveness of the remedy. Follow-up actions are needed at these sites for the final remedy to be protective.

The remedy for OU B-1 is expected to be protective of human health and the environment upon completion. Although the remedy is in place at all OU B-1 sites, regulatory concurrence has not been achieved for all sites. Until concurrence is achieved and the remedies can be considered complete, institutional controls are in place to control exposure pathways that could result in unacceptable risks. Documentation of completion of the OU B-1 remedy at all OU B-1 sites, as

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[3] One of the three sites included in the last category (NMCB Building Area) is a combination of two previous NMCB sites within the original 178 OU A sites (adding Tango Pad to the 178 OU A ROD sites gives 178 + 1 = 179). This is the reason that the number of sites in the last two categories (3 sites) added to the number of sites in the first two categories (175 sites) appears not to add up to the total number of sites (179).

[4] Because some sites are considered "remedy complete and protective" under one program (e.g., CERCLA), but considered "remedy is operating and expected to be protective" under another program (e.g., SAERA), some double-counting of sites occurs in the paragraphs that follow and in Section 9. This results in site counts that do not sum to the original site totals, however accurately describe the sites with each category.

well as documentation of regulatory concurrence with remedy completion, will be assembled in the remedial action completion report. This information will be drawn from the final after action reports.

The remedy for OU B-2 has not been selected. In the interim, land use controls are in place to control exposure pathways that could result in unacceptable risks to human health and the environment.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Adak Naval Air Station

EPA ID *(from WasteLAN)*: AK4170024323

Region: 10	**State:** AK	**City/County:** Aleutians West

SITE STATUS

NPL status: Final **X** Deleted Other (specify)__________

Remediation status (choose all that apply): Under Construction **X** Operating **X** Complete

Multiple OUs?* YES **X** NO	**Construction completion date:**

Has site been put into reuse? YES **X** NO

REVIEW STATUS

Lead agency: EPA State Tribe Other Federal Agency: Navy

Author name: Aaron Vernik

Author title: Remedial Project Manager	**Author affiliation:** Naval Facilities Engineering Command Northwest

Review period:** Data field seasons 2006 through 2010

Date(s) of site inspection: August 20–26, 2010

Type of review:

Post-SARA **X** Pre-SARA NPL-Removal only
Non-NPL Remedial Action Site NPL State/Tribe-lead
Regional Discretion

Review number: **3** (third)

Triggering action:

Actual RA Onsite Construction at OU 1 Actual RA Start at OU 1
Construction Completion Previous Five-Year Review Report
Other (specify):__________

Triggering action date *(from WasteLAN)*: Navy signature December 13, 2006

Due date *(five years after triggering action date)*: December 13, 2011

*[“OU” refers to operable unit.]

**[Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form (Cont.)

Issues:

Sitewide

- The Comprehensive Monitoring Plan (CMP), Institutional Control Management Plan (ICMP), and Operation and Maintenance (O&M) Plan need to be updated to reflect site-by-site changes in monitoring and product recovery requirements recommended in this document and by the Optimization Work Groups, to formalize institutional control (IC) requirements pertaining to the continued presence of petroleum-contaminated soil at some sites, to remove inconsistencies, to ensure that the criteria for free-product monitoring and recovery are clear and driven by decision documents, and to result in free-product monitoring and recovery documentation that is sufficiently detailed to allow independent review.
- The document repositories on Adak and in Anchorage are incomplete, especially with regard to recent documents generated during this 5-year review period.
- Action items were identified during the 2010 site inspections.
- Organizations involved in responding to munitions and explosives of concern (MEC) finds have requested materials detailing the procedures for local officials to follow in the event of a MEC discovery, the organization responsible for responding based on the location of the MEC item found, and the historical MEC recoveries across the island.

OU A – SAERA Petroleum Sites

- Former Power Plant, Building T-1451, or a nearby source yet to be identified, is impacting surface water quality in East Canal.
- Groundwater samples collected from SWMU 60, Tank Farm A, wells near South Sweeper Creek contained total aromatic hydrocarbon and total aqueous hydrocarbon concentrations that exceeded Alaska Department of Environmental Conservation (ADEC) surface water criteria, and seeps and sheens have been observed along South Sweeper Creek and Sweeper Creek Lagoon.
- Free-product thickness measurements in three surface water protection wells at NMCB Building Area appear to be increasing, indicating that the remedy may not be functioning as intended and that additional investigation is warranted.

Recommendations and Follow-Up Actions:

Sitewide

- As part of the current Optimization Work Group effort for optimization of monitoring and product recovery on Adak, update the CMP and O&M Plan to address the items listed in Issue No. 1 on Table 7-9 and as detailed in Sections 4.1.4 and 6.4 of this 5-year review. In addition, update the ICMP (and its equivalent to Table 4-1 of this 5-year review) to be consistent with source documentation (executed RODs, decision documents, and conditional closure letters).
- Update the document repositories.
- Address the action items identified during the 2010 site inspections (see Section 6.5 of this 5-year review).
- Create a munitions response desk guide for limited distribution (see Section 6.2.3 of this 5-year review).

OU A – SAERA Petroleum Sites

- Complete the ongoing assessment of additional remedial action at Former Power Plant, Building T-1451.
- Complete the ongoing evaluation of potential additional action for SWMU 60, Tank Farm A, based on impacts to South Sweeper Creek.
- Evaluate additional actions to protect surface water at NMCB Building Area in accordance with the decision document.

Five-Year Review Summary Form (Cont.)

Protectiveness Statement(s):

The protectiveness of the remedies for the OU A sites is discussed in this report by grouping the sites into categories of protectiveness. Of the 179[1] OU A and post-ROD sites, 175 fall into the categories of either “remedy is complete and protective,” or “remedy is operating and is expected to be protective.” Three sites fall into the category of “not protective, unless follow-up actions are taken to ensure protectiveness.”[2] Sites in these three categories are listed by name in Section 9 of this 5-year review.

The OU A remedy remains protective for the 138[3] sites where the remedy is complete and ADEC has concurred with a status of No Further Action (NFA) or No Further Remedial Action Planned (NFRAP). At these sites, the NFA status selected in the ROD, the NFA/NFRAP status achieved post-ROD, or the completeness of the remedy are not called into question by new information, including changes in ARARs or risk assessment assumptions.

The OU A remedy for 39 sites is expected to be protective when the operating OU A remedy (monitored natural attenuation in many cases) is complete. In the interim, exposure pathways that could result in unacceptable risks are being controlled through implementation of the ICMP.

The remedies for the three OU A sites listed below are concluded not to be protective, unless the actions identified in Section 8 of this 5-year review are taken to ensure protectiveness. Note that these sites have been removed from the OU A ROD and are now regulated under SAERA (see Section 2 of this 5-year review).

- Former Power Plant, Building T-1451
- SWMU 60, Tank Farm A
- NMCB Building Area, T-1416 Expanded Area

At these sites, trends in product thicknesses observed in surface water protection wells, or ongoing impacts to adjacent surface water call into question the protectiveness of the remedy. Follow-up actions are needed at these sites for the final remedy to be protective.

The remedy for OU B-1 is expected to be protective of human health and the environment upon completion. Although the remedy is in place at all OU B-1 sites, regulatory concurrence has not been achieved for all sites. Until concurrence is achieved and the remedies can be considered complete, ICs are in place to control exposure pathways that could result in unacceptable risks. Documentation of completion of the OU B-1 remedy at all OU B-1 sites, as well as documentation of regulatory concurrence with remedy completion, will be assembled in the remedial action completion report. This information will be drawn from the final after action reports.

The remedy for OU B-2 has not been selected. In the interim, land use controls are in place to control exposure pathways that could result in unacceptable risks to human health and the environment.

Other Comments: None.

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[1]This includes 62 petroleum sites removed from the OU A ROD and the Tango Pad site.

[2]One of the three sites included in the last category (NMCB Building Area) is a combination of two previous NMCB sites within the original 178 OU A (adding the post-ROD Tango Pad site gives 178 + 1 = 179). This is the reason that the number of sites in the last two categories (4 sites) added to the number of sites in the first two categories (174 sites) appears not to add up to the total number of sites (179).

[3]Because some sites are considered “remedy complete and protective” under one program (e.g., CERCLA), but considered “remedy is operating and expected to be protective” under another program (e.g., SAERA), some double-counting of sites occurs in the paragraphs that follow and in Section 9. This results in site counts that do not sum to the original site totals, however accurately describe sites within each category.

Signature sheet for the former Adak Naval Complex, Adak Island, Alaska, third 5-year review report.

Cindy L O'Hare ________________________ 13 Dec 11 ____________

Cindy L. O'Hare, PE
Former Adak Naval Complex, Base Realignment
and Closure Environmental Coordinator
U.S. Navy

Date

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FIGURES

TABLES

ABBREVIATIONS AND ACRONYMS

AAC	Alaska Administrative Code
ACL	alternative cleanup level
ADEC	Alaska Department of Environmental Conservation
ADOT&PF	Alaska Department of Transportation and Public Facilities
ARAR	applicable or relevant and appropriate requirement
ARC	Adak Reuse Corporation
AST	aboveground storage tanks
ATV	all-terrain vehicle
avgas	aviation gasoline
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMP	Comprehensive Monitoring Plan
COC	chemical of concern
CRP	Community Relations Plan
DCE	dichloroethene
DIN	dissolved inorganics
DMM	discarded military munition
DRMO	Defense Reutilization Marketing Office
DRO	diesel-range organics
DVD	digital video disc
EC	engineering control
EE/CA	engineering evaluation/cost analysis
EOD	explosive ordnance disposal
EPA	U.S. Environmental Protection Agency
ERL	effects range low
ERM	effects range medium
ESHA	explosives safety hazard assessment
FFA	Federal Facility Agreement
FFCA	Federal Facilities Compliance Agreement
FS	feasibility study
FFS	focused feasibility study
g/day	gram per day
GRO	gasoline-range organics
HI	hazard index
HQ	hazard quotient

ABBREVIATIONS AND ACRONYMS (Continued)

IC	institutional control
ICMP	Institutional Control Management Plan
IRIS	Integrated Risk information System
JP-5	jet petroleum No. 5
loran	long-range navigation
LUC	land use control
MAUW	Modified Advanced Underwater Weapons
MC	munitions constituent(s)
MCL	maximum contaminant level
MEC	munitions and explosives of concern
µg/kg	microgram per kilogram
µg/L	microgram per liter
mg/kg	milligram per kilogram
mg/L	milligram per liter
mm	millimeter
mogas	motor gasoline
MW	monitoring well
NAP	natural attenuation parameter
NAVFAC	Naval Facilities Engineering Command
Navy	U.S. Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Action (abbreviation used in OU A ROD)
NFRAP	No Further Remedial Action Planned
NMCB	Naval Marine Construction Battalion
NOFA	No Further Action (abbreviation used in the OU B-1 ROD)
NPL	National Priorities List
NSGA	Naval Security Group Activity
O&M	operation and maintenance
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
ppm	parts per million
PQL	practical quantitation limit
PSE	preliminary source evaluation
RAB	Restoration Advisory Board
RAO	remedial action objective

ABBREVIATIONS AND ACRONYMS (Continued)

RBSC	risk-based screening concentration
RCRA	Resource Conservation and Recovery Act
RDX	royal demolition explosive (cyclonite)
RG	remediation goal
RI	remedial investigation
ROD	Record of Decision
ROICC	resident officer in charge of construction
RRO	residual-range organics
RSL	Regional Screening Level
SA	source area
SAERA	State-Adak Environmental Restoration Agreement
SARA	Superfund Amendments and Reauthorization Act
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TAC	The Aleut Corporation
TAH	total aromatic hydrocarbons
TAqH	total aqueous hydrocarbons
TCE	trichloroethene
TDS	total dissolved solids
TIN	total inorganics
UPS	uninterrupted power system
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	unexploded ordnance
UST	underground storage tank
VOC	volatile organic compound
WQP	water quality parameter

1.0 INTRODUCTION

This report presents the results of the third 5-year review performed for the former Adak Naval Complex, Adak Island, Alaska, National Priorities List (NPL) site (Figure 1-1). The purpose of a 5-year review is to determine whether the remedies selected for implementation in the Record of Decision (ROD) for a site are protective of human health and the environment. The methods, findings, and conclusions of 5-year reviews are documented in 5-year review reports, which identify issues and provide recommendations to address them. The triggering action for this review was the execution by the U.S. Navy (Navy) of the second 5-year review on December 13, 2006. This review is required because contaminants have been left at Adak above levels that allow for unlimited use and unrestricted exposure.

The Navy, the lead agency for Adak, prepared this 5-year review report pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121(c) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP; 40 Code of Federal Regulations [CFR] Part 300). CERCLA Section 121(c) states the following:

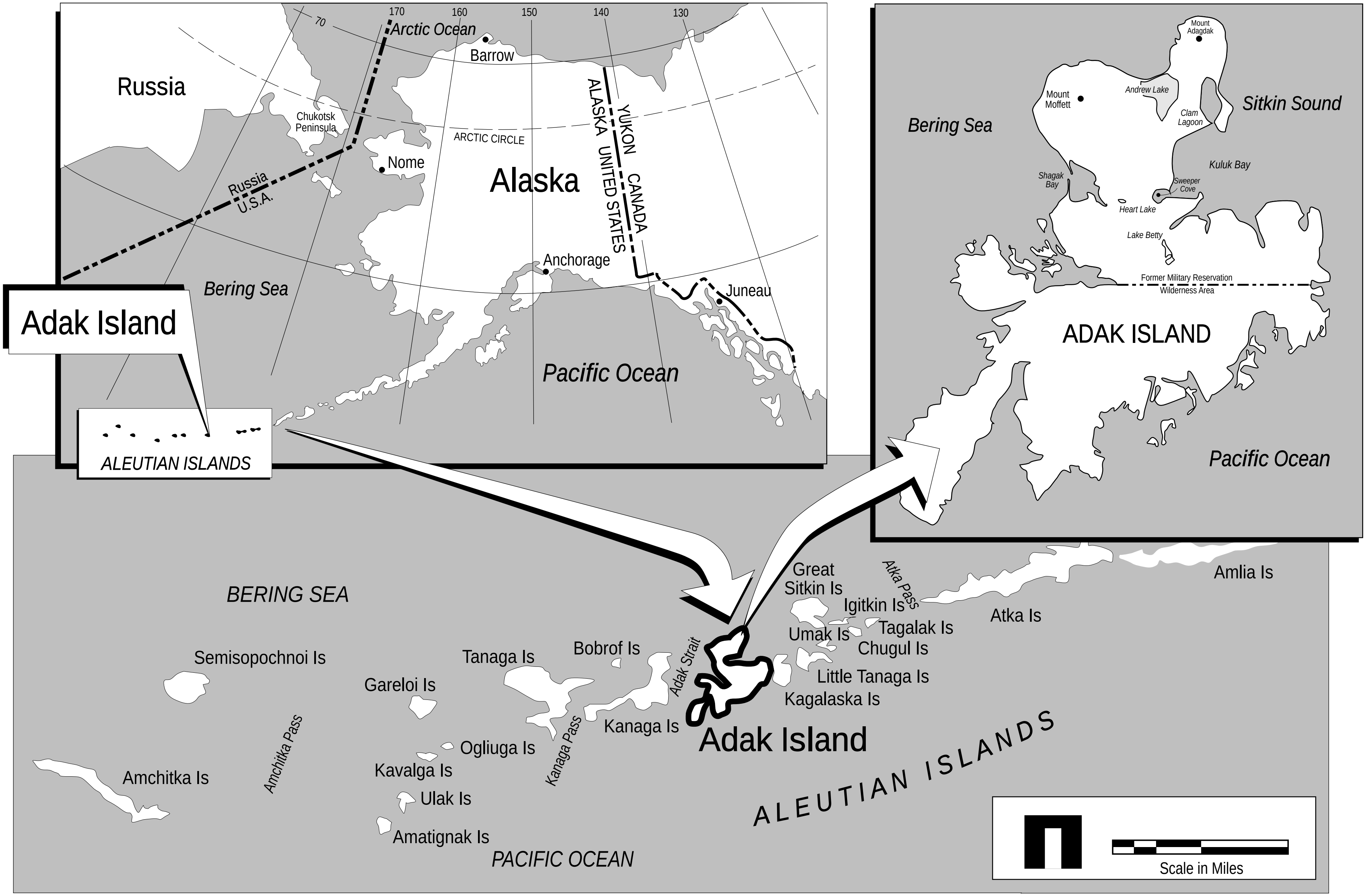
> If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

While the former Adak Naval Complex is listed on the NPL as a single listing, the former Adak Naval Complex includes multiple CERCLA- and NCP-regulated sites, which are referred to as solid waste management units (SWMUs), source areas (SAs), or individual areas of investigation. This report covers the remedies selected for each of these sites in the signed RODs for Operable Unit A (OU A) and OU B-1 (U.S. Navy, USEPA, and ADEC 1995, 2000, and 2001) and the signed decision documents for 14 petroleum sites (U.S. Navy and ADEC 2005a, 2006a, 2006b, 2006c, and 2007). The status of the CERCLA process for OU B-2 sites is also summarized.

The RODs documenting the remedies implemented at OU A and OU B-1 were signed after October 17, 1986 (the effective date of the Superfund Amendments and Reauthorization Act [SARA]). Therefore, this is considered a statutory, rather than a policy, review. In general, reviews of RODs signed after the effective date of SARA are termed “statutory reviews,” while reviews of RODs signed before the effective date of SARA (or when certain other conditions apply) are termed “policy reviews.”

Naval Facilities Engineering Command Northwest (NAVFAC Northwest) conducted this 5-year review during the time period June 2010 through August 2011 by reviewing data collected at the site during the 2006 through 2010 field seasons. This report documents the results of the review. In accordance with Navy guidance, this review covers the entire former Adak Naval Complex, including both CERCLA and non-CERCLA sites.

This report was prepared using Navy and U.S. Environmental Protection Agency (EPA) guidance (U.S. Navy 2011h and USEPA 2001). The numerous SWMUs and SAs at the former Adak Naval Complex and the complex regulatory, investigative, and remedial history of the island complicate efforts to comprehensively and yet succinctly summarize the 5-year review for the island as a whole in a single document. In an effort to meet this challenge, this 5-year review presents overview information in the body of the report and presents many details of individual SWMUs and SAs in a Site Catalog attached as Appendix A. The Site Catalog is intended to be a living document that is updated annually. The Site Catalog will be used as a reference document and also a source document for SWMU- and SA-specific information (such as background text) to be used in other documents (such as the Comprehensive Monitoring Plan [CMP]).



U.S.NAVY	Figure 1-1 Adak Island Location Map	Delivery Order 0019 Adak Island, AK THIRD FIVE-YEAR REVIEW

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2.0 SITE CHRONOLOGY

This section provides a narrative chronology of site events related to environmental investigation and remediation, with a tabulated summary provided in Table 2-1. The chronology of land transfer activities is summarized in Section 3.

In 1986, an initial assessment study was conducted on Adak as the first phase of the Navy Assessment and Control of Installation Pollutants Program (U.S. Navy 1986). Thirty-two sites were examined during the initial assessment study. The initial assessment study recommended that sampling be conducted at 20 of the 32 sites. Therefore, sampling was conducted at these sites in 1989 as part of a site inspection (U.S. Navy 1989). Two of the sites were combined into one during the site inspection. Therefore, a total of 19 sites were investigated. In 1990, a Resource Conservation and Recovery Act (RCRA) remedial facility assessment was completed by EPA, which identified and gathered information on potentially contaminated sites. A total of 68 sites, which includes the 19 sites investigated in the site inspection, were identified in the remedial facility assessment. EPA issued a Federal Facility Compliance Agreement in November 1990. Adak was proposed for the NPL in October 1992 (57 Federal Register 47204) and formally listed in May 1994 (59 Federal Register 27989).

In 1993, the Navy, EPA, and Alaska Department of Environmental Conservation (ADEC) signed the Adak Federal Facility Agreement (FFA), which incorporates the EPA's cleanup process under CERCLA, as amended by SARA. The CERCLA exclusion of petroleum as a hazardous substance required that cleanup of petroleum-related chemicals would follow State of Alaska regulations. Therefore, the FFA stated that petroleum-contaminated sites, such as those containing underground storage tanks (USTs) and leaking underground fuel lines, would be evaluated under a separate two-party agreement between the Navy and the State of Alaska. This agreement, the State-Adak Environmental Restoration Agreement (SAERA), was signed in April 1994.

For technical and administrative purposes, Adak was divided into two OUs in 1998, OU A and OU B, through an amendment to the FFA. In May 1997, the Navy and ADEC agreed to integrate the cleanup decision process for petroleum sites with the cleanup decision process being conducted for hazardous-substance-release sites under CERCLA. As a result, the ROD for OU A was prepared for both the petroleum-contaminated and the hazardous-substance-release sites. The interim action ROD for SWMUs 11 and 13 and the final ROD for OU A were signed in March 1995 and April 2000, respectively.

A listing of the sites included in the OU A ROD is included in Table 2-2. A total of 180 sites were evaluated for OU A. Two of these sites were deferred to OU B (SWMU 8 and SA 93) because ordnance was present at these sites (U.S. Navy, USEPA, and ADEC 2000). Of the remaining 178 sites, 121 were petroleum sites, 50 were investigated under CERCLA, 5 were investigated under both CERCLA and SAERA (SWMUs 14, 15, 17, 55, and 74), and 2 were investigated under both RCRA and SAERA (SWMUs 24 and 77). Figure 2-1 presents an overview of the process used to evaluate OU A CERCLA sites, and Figure 2-2 presents an overview of the process used to evaluate OU A petroleum sites.

The original number of sites began with the FFA, which listed 84 SWMUs and SAs that needed to be evaluated within OU A. Twenty-six of the original 84 sites were petroleum-only sites administered under the SAERA agreement. Two of the remaining 58 sites were deferred to OU B-2 (SWMU 8 and SA 93); the CERCLA portion of one combined CERCLA and SAERA site was deferred to the OU B process, but remained a SAERA site (SWMU 1); the minefield portion of one CERCLA site was deferred to the OU B process, but the landfill portion remained as a CERCLA site (SWMU 2); SWMUs 53 and 59 were combined with SWMU 52; and one site was deferred to the SAERA process (SWMU 12). This left a total of 52 CERCLA sites, including 3 state-permitted landfills (SWMUs 18, 19, and 25), 5 combined CERCLA and petroleum sites (SWMUs 14, 15, 17, 55, and 74), and 2 combined RCRA and petroleum sites (SWMU 24 and SA 77). An additional 93 petroleum sites were included in OU A between 1994 and 1997 (U.S. Navy, USEPA, and ADEC 2000). The five water bodies that could be impacted by site contamination were not originally part of the FFA, but were added to the OU A site list around the time of the remedial investigation (RI). These water bodies were evaluated under CERCLA and include Sweeper Cove, South Sweeper Creek, Clam Lagoon, Andrew Lake, and Kuluk Bay. The addition of the water bodies brought the total number of CERCLA sites to 57. The OU A ROD selected final remedies for each of the 57 CERCLA sites, including 50 CERLCA-only sites, 5 combined CERCLA and petroleum sites (SWMUs 14, 15, 17, 55, and 74), and 2 combined RCRA and petroleum sites (SWMU 24 and SA 77).

The OU A ROD selected final or interim remedies for each of 128 petroleum-contaminated sites, counting the NMCB Building Area, T-1416 Expanded Area and NMCB Building (UST T-1416-A) as separate sites. This includes 121 petroleum-only sites, 5 combined CERCLA and petroleum sites (SWMUs 14, 15, 17, 55, and 74), and 2 combined RCRA and petroleum sites (SWMU 24 and SA 77). The interim remedy, free-product recovery, was selected for 14 sites that contained measurable quantities of free-phase petroleum product ("14 sites" is arrived at by counting NMCB Building Area, T-1416 Expanded Area and NMCB Building [UST T-1416-A] as one combined site and not two separate sites). In addition, the OU A ROD specified that these 14 sites would require future final remedy selection pursuant to the two-party SAERA. To clarify regulatory authority, the OU A ROD was amended in 2003 to remove these 14 petroleum sites and 47 others from CERCLA authority. Therefore, final remedies for the 14 petroleum-contaminated sites were to be selected in accordance with Alaska State regulation 18 Alaska Administrative Code (AAC) 75.325 through 75.390, which provides the regulatory procedures and requirements for petroleum cleanup decisions.

The OU A ROD concluded that no further action was required for 114 sites (31 CERCLA sites, which include 2 water bodies, 1 combined CERCLA and SAERA site [SWMU 74], 1 combined RCRA and SAERA site [SWMU 24], the RCRA portion of 1 combined RCRA and SAERA site [SA 77], the SAERA portion of 1 combined CERCLA and SAERA site [SWMU 55], and 79 petroleum sites) (U.S. Navy, USEPA, and ADEC 2000). These sites are listed in Tables 2-3 and 2-4. Petroleum sites for which no further action was required under the OU A ROD were also considered to have met all requirements of the SAERA agreement. In addition, those petroleum sites for which a final remedy was selected in the OU A ROD, and which met the OU A ROD remediation goals, were considered to have met all requirements of the SAERA agreement (U.S. Navy, USEPA, and ADEC 2003).

Sixty-six OU A sites required remedial action (19 CERCLA sites [includes 3 water bodies and 3 state-permitted landfills], 3 combined CERCLA and petroleum sites [SWMUs 14, 15, and 17], the CERCLA portion of 1 combined CERCLA and petroleum site [SWMU 55], the SAERA portion of 1 combined RCRA and petroleum site [SA 77], and 42 petroleum sites [including the NMCB Building Area, T-1416 Expanded Area and NMCB Building (UST T-1416-A) as separate sites]). (Note that SA 77 is included as a no further action site under RCRA and as a remedial action site under SAERA. In addition, SWMU 55 is included as a no further action site under SAERA and as a remedial action site under CERCLA. Because of this double counting of SWMU 55 and SA 77, 114 no further action sites plus 66 remedial action sites equals 180 and not 178 sites.) Of these sites, Figure 2-3 shows the locations of the chemical-release sites administered under CERCLA and RCRA retained for further action. Figure 2-4 shows the locations of the petroleum sites administered under SAERA retained for further action.

Removal actions and interim remedial actions at some CERCLA sites were completed prior to the completion of the OU A ROD. Removal actions were also completed at some of the 128 petroleum sites. Most of the physical remedy construction was completed at the last OU A site in 2003 (except for those transferred to SAERA) with the closure of Roberts Landfill. OU A remedy construction was completed in 2006 after soil was removed from ASR-8 Facility (UST 42007-B) and SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area. With the remedy in place at OU A in 2006, the CERCLA milestone of “remedy construction complete” was achieved. However, EPA has not concurred with the preliminary remedial action completion report. The Institutional Control Management Plan (ICMP), a component of the remedy for many of the OU A sites, was written in 2000 and has been revised by the Navy four times, the latest in 2010 (U.S. Navy 2010a).

In 2001, OU B was further divided into OU B-1 and OU B-2 to accommodate land transfer under the Base Realignment and Closure program to a combination of private and public entities. The OU B-1 ROD and the first 5-year review were both signed in December 2001. Implementation of the remedies selected in the OU B-1 ROD began in 2001. Remedial actions at the OU B-1 sites continued during the 2002, 2004, 2008, 2009, and 2010 field seasons. The remedial action implementation at the OU B-1 sites was completed in 2010. However, the unexploded ordnance (UXO) awareness education program remains a component of the remedy for all of the OU B-1 sites. The ICMP outlines the requirements of the awareness educational program. As discussed in the previous paragraph, the ICMP was most recently updated in 2010.

In March of 2002, the FFA and SAERA were amended to administratively move 62 petroleum sites included in OU A out of OU A (and out of the FFA). From the date of this amendment forward, all future decisions regarding the moved sites were to be made based on State of Alaska regulations (under SAERA), rather than federal regulations (U.S. Navy, USEPA, and ADEC 2002). This change was subsequently reflected in an OU A ROD amendment signed October 10, 2003 (U.S. Navy, USEPA, and ADEC 2003). Fourteen petroleum sites removed from the OU A ROD potentially required further action under SAERA. The selected interim remedy for these 14 sites under the OU A ROD was free-product recovery. A decision document memorializing final remedies at 10 of these sites was signed May 20, 2005 (U.S. Navy and ADEC 2005a). Decision documents memorializing the final remedies for the four remaining sites (NMCB Building Area, T-1416 Expanded Area; SWMU 62, New Housing Fuel Leak Site; South of Runway 8-36 Area; and SWMU 17, Power Plant No. 3 Area) were signed on March 22, 2006, August 22, 2006, October 3, 2006, and January 4, 2007, respectively (U.S. Navy and ADEC 2006a, 2006b, and 2006c, and 2007).

During the second 5-year review period, “No Further Action” (NFA) or “No Further Remedial Action Planned” (NFRAP) status was approved by ADEC for 19 OU A sites (ADEC 2005a, 2005b, 2005c, and 2005d). NFA closure is used for sites at which all media meet the most stringent levels of remediation (Method 2 for soil, Table C for groundwater). NFRAP is a conditional closure that requires the implementation of institutional controls (ICs). This status is used when a site has met the remedial action objectives (RAOs) of protection of human health and the environment, but has not yet met final closure standards.

During this review period, ADEC approved site closure status for one OU A site (ASR-8, UST 42007-B) and conditional closure status for two OU A sites (SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area, and Yakutat Hangar, UST T-2039-A). Site closure status is the same as the NFA status approved during the second 5-year review period, and conditional closure status is the same as NFRAP status approved during the second 5-year review period. Furthermore, the ADEC concurred that the limited soil removal action at SA 82, P-80/P-81 Building is complete. During this review period, ADEC also approved conditional site closure status for 16 OU B-1 sites and 1 OU B-2 site (LJ-02A).

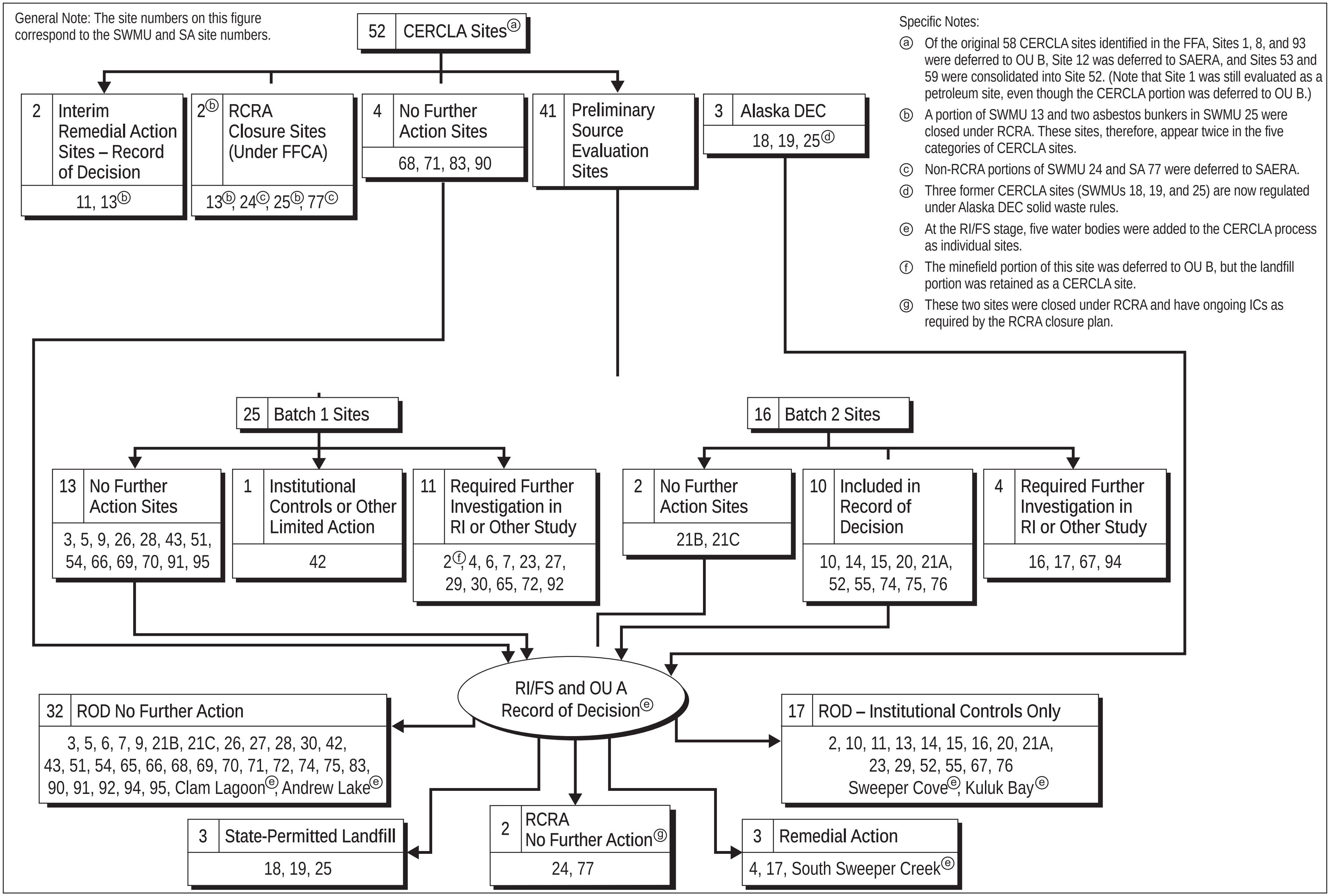

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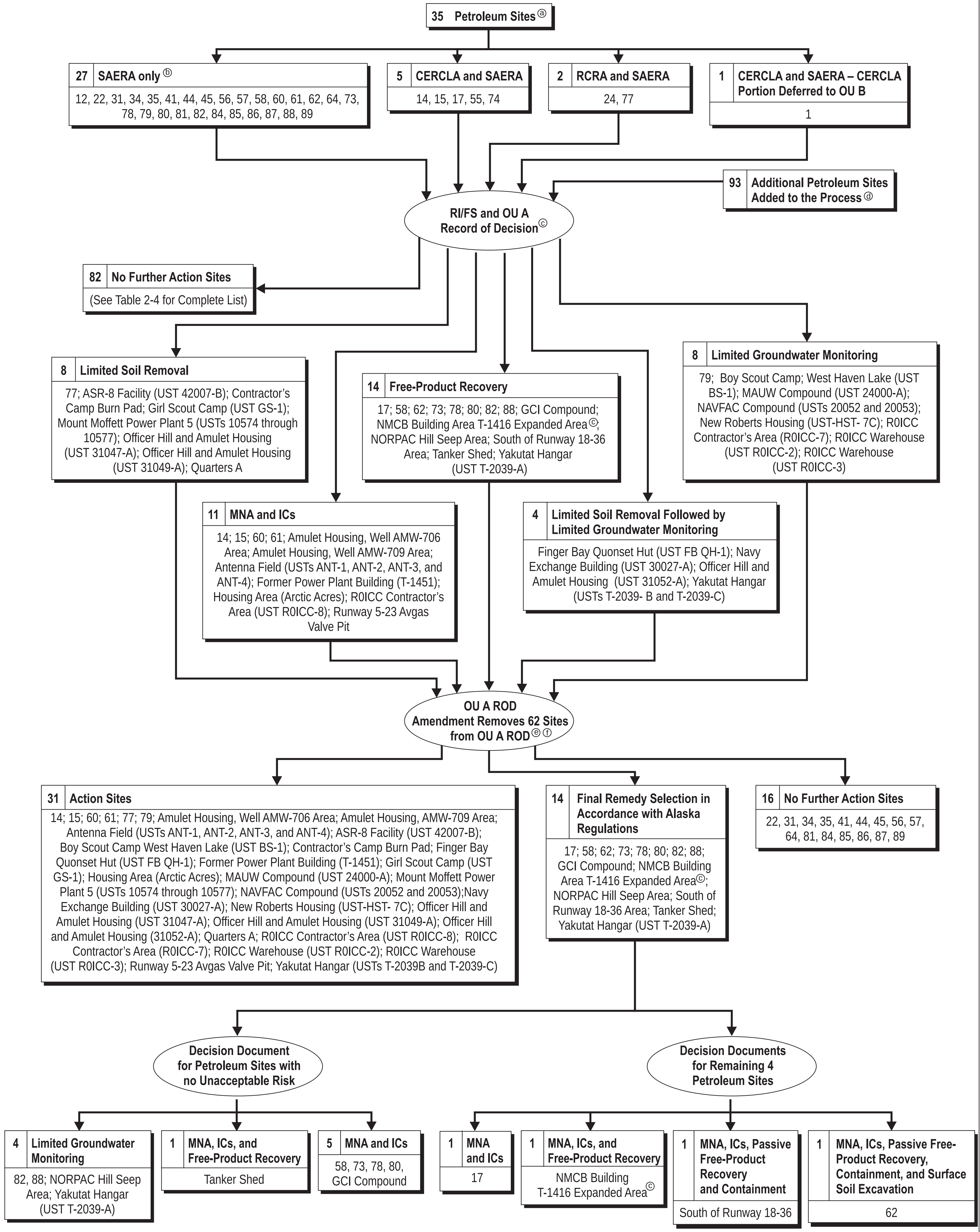
Figure 2-1
Summary of CERCLA Site Process at Former Adak Naval Complex

Delivery Order 0019
Adak Island, AK
THIRD FIVE-YEAR REVIEW



General Note:

The site numbers on this figure correspond to the SWMU and SA site numbers.

Specific Notes:

ⓐ Original number of petroleum sites from FFA.

ⓑ SWMU 12 was originally listed as a CERCLA site in the FFA. It was transferred to the SAERA process.

ⓒ NMCB Building (UST T-1416-A) was combined with this site.

ⓓ A complete listing of these sites is provided in Table 2-1 of the OU A ROD (and Table 2-2 of this document) and includes SA 96 and SA 97 and all the sites without a SWMU or SA number, except does not include the five water bodies (Sweeper Cove, South Sweeper Creek, Clam Lagoon, Andrew Lake, and Kuluk Bay).

ⓔ This count includes the two NMCB sites as separate sites. Therefore, if combined, the total number of sites removed from the OU A ROD is 61.

ⓕ Sixty-six no further action sites were not removed from the OU A ROD and are not included in the flow chart below this point.

U.S.NAVY

Figure 2-2
Summary of Petroleum Site Process at Former Adak Naval Complex

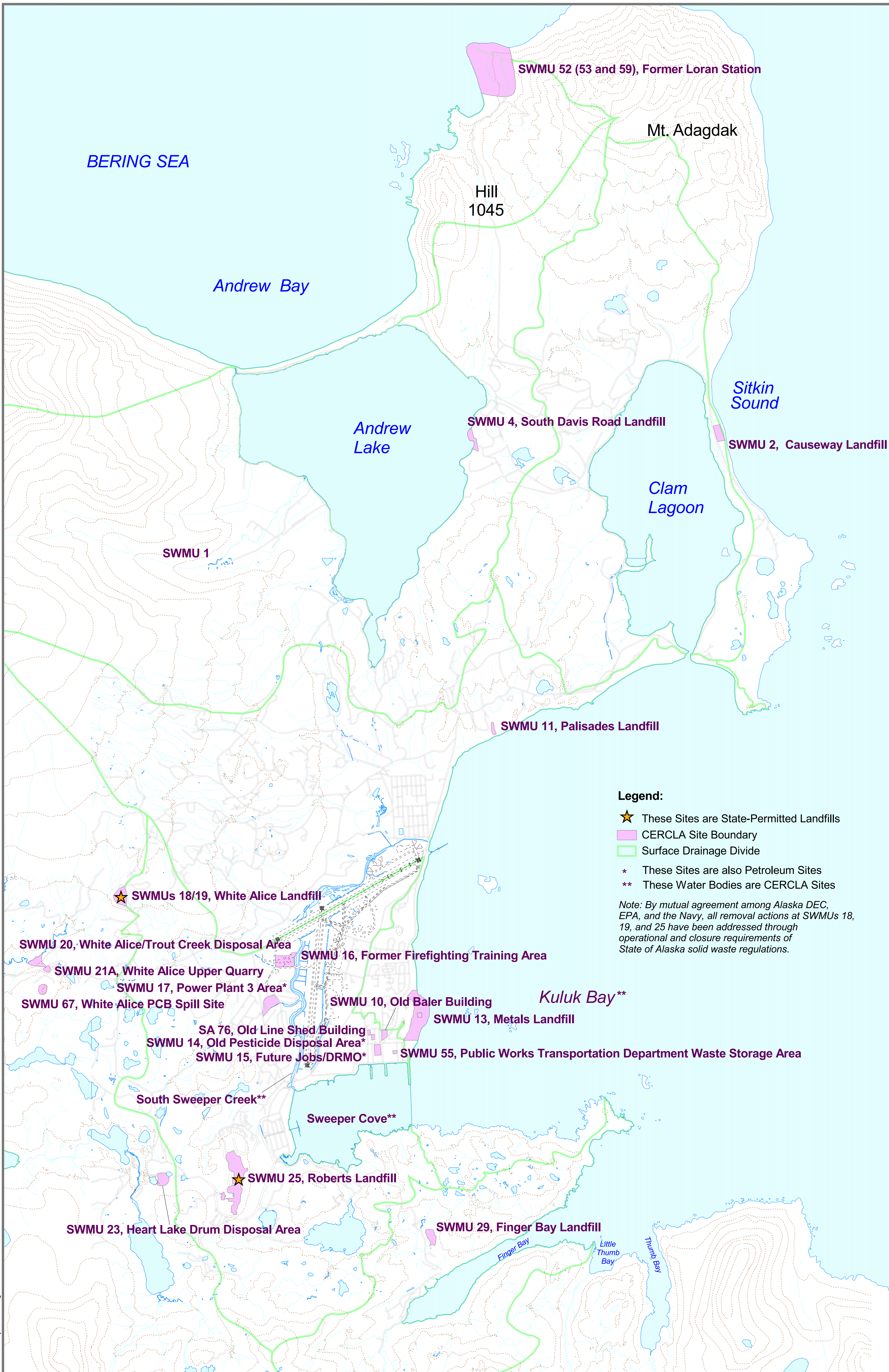


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Figure 2-3
Operable Unit A CERCLA Sites That Require Further Action

Delivery Order 0019
Adak Island, AK
THIRD FIVE-YEAR REVIEW

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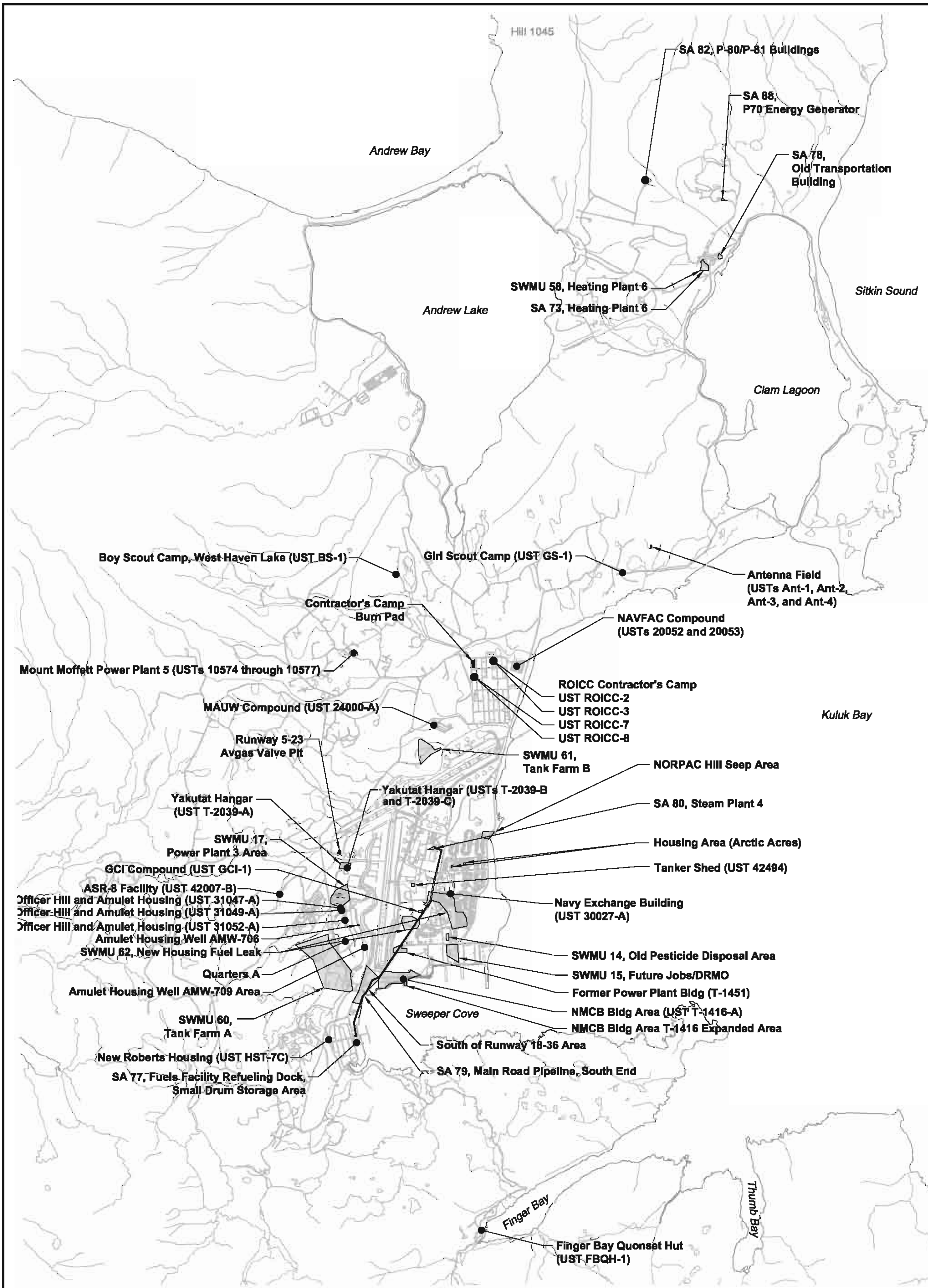

Notes:
1. SWMUs 14, 15, and 17 are also CERCLA Sites.
2. SA 77 is also a RCRA Site, but no further action required under RCRA.

U.S. NAVY

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Figure 2-4
Operable Unit A Petroleum Sites
That Require Further Action

Delivery Order 0019
Adak Island, AK
THIRD FIVE-YEAR REVIEW

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Table 2-1
Chronology of Site Events

Event	Date
Initial assessment study performed	1986
Site inspection	1989
RCRA remedial facility assessment	1990
Federal Facility Compliance Agreement under RCRA signed by EPA	November 20, 1990
Adak proposed for listing to the National Priorities List	October 1992
Formal National Priorities List listing	May 1994
FFA signed	1993
Two-party agreement (SAERA) regarding petroleum sites signed	April 1994
ROD for interim remedial action signed for Sites 11 and 13	March 1995
SAERA amended	August 1996
Operational closure of Adak Naval Air Station	March 1997
FFA amended to designate OU B	1998
ROD for OU A signed	April 2000
Institutional Control Management Plan implemented	2000
OU B divided into OU B-1 and OU B-2	2001
OU B-1 ROD signed	December 2001
First 5-year review executed	December 2001
FFA and SAERA amended to move petroleum sites from OU A to SAERA	March 2002
OU A remedy in place at all non-SAERA sites	2003
OU A ROD amended to move all petroleum sites with further action from OU A to SAERA	October 2003
Completion of land relinquishment by the Navy to DOI, with subsequent transfer to TAC, City of Adak, and the State of Alaska Department of Transportation and Public Facilities	March 2004
Decision document for final remedy at 10 OU A SAERA sites	May 2005
Decision document for final remedy at NMCB Building Area, T-1416 Expanded Area	March 2006
Decision document for final remedy at SWMU 62, New Housing Fuel Leak Site	August 2006
Decision document for final remedy at South of Runway 18-36 Area	October 2006
Second 5-year review executed	December 2006
Decision document for final remedy at SWMU 17, Power Plant No. 3 Area	January 2007
OU A remedy in place at all OU A SAERA sites	October 2006
OU B-1 remedy in place at all sites (pending agency concurrence)	September 2010

Notes:
DOI - U.S. Department of the Interior
EPA - U.S. Environmental Protection Agency
FFA - Federal Facilities Agreement
OU - operable unit
RCRA - Resource Conservation and Recovery Act
ROD - Record of Decision
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit
TAC - The Aleut Corporation

Table 2-2
CERCLA and Petroleum Sites Listed or Evaluated on Adak Island

SWMU or SA No.[a]	Site Name[b]	Listed or Investigated Under	Interim Remedy	Final Remedy
1	Andrew Lake Waste Ordnance Demolition Range[c] (a.k.a. Andrew Lake OB/OD and Range)	CERCLA and SAERA	CERCLA Portion Deferred to OU B	OU A ROD
2	Causeway Landfill and Minefield[c]	CERCLA	NA	OU A ROD
3	Clam Lagoon Landfill	CERCLA	NA	OU A ROD
4	South Davis Road Landfill	CERCLA	NA	OU A ROD
5	North Davis Road Landfill	CERCLA	NA	OU A ROD
6	Andrew Lake Drum Disposal Area 1	CERCLA	NA	OU A ROD
7	Andrew Lake Drum Disposal Area 2	CERCLA	NA	OU A ROD
8	Andrew Lake Landfill and Shoreline[c]	CERCLA	Deferred to OU B	Deferred to OU B
9	Black Powder Club	CERCLA	NA	OU A ROD
10	Old Baler Building	CERCLA	NA	OU A ROD
11	Palisades Landfill	CERCLA	1995 ROD	OU A ROD
12	Quartermaster Road Debris Disposal Area (a.k.a. Quartermaster Site)	SAERA	NA	OU A ROD
13	Metals Landfill	CERCLA and RCRA	1995 ROD	OU A ROD
14	Old Pesticide Disposal Area (a.k.a. Old Pesticide Storage and Disposal Area)	CERCLA and SAERA	NA	OU A ROD
15	Future Jobs/DRMO (Former Hazardous Waste Storage)	CERCLA and SAERA	NA	OU A ROD
16	Former Firefighting Training Area (including SWMUs 32 and 33)	CERCLA	NA	OU A ROD
17	Power Plant No. 3 Area (including SWMUs 36–40 and 63) (a.k.a. Power Plant 3)	CERCLA and SAERA	OU A ROD, as amended	2007 Decision Document
18	South Sector Drum Disposal Area (now part of White Alice Landfill)	DEC-SW and CERCLA	NA	OU A ROD
19	Quarry Metal Disposal Area (now White Alice Landfill)	DEC-SW and CERCLA	NA	OU A ROD
20	White Alice/Trout Creek Disposal Area	CERCLA	NA	OU A ROD
21A	White Alice Upper Quarry	CERCLA	NA	OU A ROD
21B	White Alice Lower Quarry	CERCLA	NA	OU A ROD
21C	White Alice East Disposal Area	CERCLA	NA	OU A ROD
22	Avgas Drum Storage Area South of Tank Farm A (a.k.a. Avgas Drum Storage Area South of Tank Farm A)	SAERA	NA	OU A ROD
23	Heart Lake Drum Disposal Area	CERCLA	NA	OU A ROD
24	Hazardous Waste Container Storage Facility (a.k.a. Hazardous Waste Storage Facility)	RCRA and SAERA	NA	OU A ROD

Table 2-2 (Continued)
CERCLA and Petroleum Sites Listed or Evaluated on Adak Island

SWMU or SA No.[a]	Site Name[b]	Listed or Investigated Under	Interim Remedy	Final Remedy
25	Roberts Landfill	DEC-SW and RCRA	NA	OU A ROD
26	Mitt Lake Drum Disposal Area	CERCLA	NA	OU A ROD
27	Lake Leone Drum Disposal Area	CERCLA	NA	OU A ROD
28	Lake Betty Drum Disposal Area	CERCLA	NA	OU A ROD
29	Finger Bay Landfill	CERCLA	NA	OU A ROD
30	Magazine 4 Landfill	CERCLA	NA	OU A ROD
31	Runway 18-36 Aviation Gas Drum Disposal	SAERA	NA	OU A ROD
34	Steam Plant 4 Used Oil Storage Area (a.k.a. Steam Plant 4 Used Oil AST)	SAERA	NA	OU A ROD
35	GSE Used Oil Tank (a.k.a. Ground Support Equipment Building)	SAERA	NA	OU A ROD
41	Ground Support Equipment (GSE) Used Oil Storage Area	SAERA	NA	OU A ROD
42	GSE Steam Clean Oil/Water Separator	CERCLA	NA	OU A ROD
43	AIMD Acid Battery Storage Area	CERCLA	NA	OU A ROD
44	AIMD Used Oil Storage Area	SAERA	NA	OU A ROD
45	Sewage Treatment Plant (including SWMUs 46, 47, 48, 49, and 50) (a.k.a. Sewage Treatment Plant Petroleum Contamination)	SAERA	NA	OU A ROD
51	NSGA Transportation Bldg. 10354 Waste Storage Area	CERCLA	NA	OU A ROD
52	Former Loran Station (including SWMUs 53 and 59)	CERCLA	NA	OU A ROD
54	NMCB Battery Storage	CERCLA	NA	OU A ROD
55	Public Works Transportation Department Waste Storage Area	CERCLA and SAERA	NA	OU A ROD
56	Public Works Transportation Department Storage Tank	SAERA	NA	OU A ROD
57	Refueling Dock Oil/Water Separator (a.k.a. Fuels Facility Refueling Dock)	SAERA	NA	OU A ROD
58	NSGA 10348 JP-5 Tank (a.k.a. Heating Plant 6)	SAERA	OU A ROD, as amended	2005 Decision Document
60	Tank Farm A	SAERA	NA	OU A ROD
61	Tank Farm B	SAERA	NA	OU A ROD
62	Housing Area Fuel Leak (a.k.a. New Housing Fuel Leak)	SAERA	OU A ROD, as amended	2006 Decision Document
64	Tank Farm D	SAERA	NA	OU A ROD
65	Contractor's Camp Fire/Demolition Site	CERCLA	NA	OU A ROD
66	Palisades Lake PCB Spill	CERCLA	NA	OU A ROD
67	White Alice PCB Spill Site	CERCLA	NA	OU A ROD

Table 2-2 (Continued)
CERCLA and Petroleum Sites Listed or Evaluated on Adak Island

SWMU or SA No.[a]	Site Name[b]	Listed or Investigated Under	Interim Remedy	Final Remedy
68	New Pesticide Storage Area (no evaluation done)	CERCLA	NA	OU A ROD
69	Ski Lodge Waste Pile	CERCLA	NA	OU A ROD
70	Davis Road Asphalt Drums	CERCLA	NA	OU A ROD
71	NSGA Fueling Facility	CERCLA	NA	OU A ROD
72	NSGA Transportation Building 10354	CERCLA	NA	OU A ROD
73	NSGA Oil/Water Separator (a.k.a. Heating Plant 6)	SAERA	OU A ROD, as amended	2005 Decision Document
74	Old Batch Facility	CERCLA and SAERA	NA	OU A ROD
75	Asphalt Storage Area	CERCLA	NA	OU A ROD
76	Old Line Shed Building	CERCLA	NA	OU A ROD
77	Fuel Division Area Drum Storage (a.k.a. Fuels Facility Refueling Dock, Small Drum Storage Area)	RCRA and SAERA	NA	OU A ROD
78	NSGA Building USTs (a.k.a. Old Transportation Building)	SAERA	OU A ROD, as amended	2005 Decision Document
79	Main Road Pipeline (a.k.a. Main Road Pipeline, North End [MRP-MW15] and South End)	SAERA	NA	OU A ROD
80	Steam Plant 4 USTs (a.k.a. Steam Plant 4)	SAERA	OU A ROD, as amended	2005 Decision Document
81	NSGA Gun Turret Hill USTs (a.k.a. Gun Turret Hill)	SAERA	NA	OU A ROD
82	NSGA P80, P81 USTs (a.k.a. P-80/P-81 Buildings)	SAERA	OU A ROD, as amended	2005 Decision Document
83	Former Chiefs Club Station (no evaluation done)	CERCLA	NA	OU A ROD
84	Sand Shed	SAERA	NA	OU A ROD
85	New Baler Building	SAERA	NA	OU A ROD
86	Old Happy Valley Child Care Center	SAERA	NA	OU A ROD
87	Old Zeto Point Wizard Station	SAERA	NA	OU A ROD
88	NSGA P70 Energy Generator (a.k.a. P-70 Energy Generator)	SAERA	OU A ROD, as amended	2005 Decision Document
89	Tank Farm C	SAERA	NA	OU A ROD
90	Husky Road Landfill (no evaluation done)	CERCLA	NA	OU A ROD
91	Airplane Crash Sites	CERCLA	NA	OU A ROD
92	Waste Ordnance Pile (Fin Field)	CERCLA	NA	OU A ROD
93	World War II Mortar Impact Area[c]	CERCLA	Deferred to OU B	Deferred to OU B
94	Chemical Weapons Disposal Area	CERCLA	NA	OU A ROD
95	Transformer Disposal Area	CERCLA	NA	OU A ROD

Table 2-2 (Continued)
CERCLA and Petroleum Sites Listed or Evaluated on Adak Island

SWMU or SA No.[a]	Site Name[b]	Listed or Investigated Under	Interim Remedy	Final Remedy
96	NORPAC Hill Debris Site	SAERA	NA	OU A ROD
97	Generator Debris Site	SAERA	NA	OU A ROD
None[d]	Sweeper Cove	CERCLA	NA	OU A ROD
	South Sweeper Creek	CERCLA	NA	OU A ROD
	Clam Lagoon	CERCLA	NA	OU A ROD
	Andrew Lake	CERCLA	NA	OU A ROD
	Kuluk Bay	CERCLA	NA	OU A ROD
	Administration Building (UST 30004-A)	SAERA	NA	OU A ROD
	Amulet Housing, Well AMW-706 Area	SAERA	NA	OU A ROD
	Amulet Housing, Well AMW-709 Area	SAERA	NA	OU A ROD
	Antenna Field (USTs ANT-1, ANT-2, ANT-3, and ANT-4)	SAERA	NA	OU A ROD
	Armory (UST 10311-A)	SAERA	NA	OU A ROD
	Artillery Battalion (USTs ART-1 and ART-2)	SAERA	NA	OU A ROD
	ASR-8 Facility (UST 42007-B)	SAERA	NA	OU A ROD
	Bering Chapel (UST 42090-A)	SAERA	NA	OU A ROD
	Boy Scout Camp, South Haven Lake (UST BS-2)	SAERA	NA	OU A ROD
	Boy Scout Camp, West Haven Lake (UST BS-1)	SAERA	NA	OU A ROD
	CDAA Complex (USTs 10580 and 10654)	SAERA	NA	OU A ROD
	Clam Road Truck Fill Stand	SAERA	NA	OU A ROD
	Cold Storage Facility (AST T-1440)	SAERA	NA	OU A ROD
	Contractor’s Camp Burn Pad	SAERA	NA	OU A ROD
	Contractor’s Pad UST T-1706 (Navy Pad)	SAERA	NA	OU A ROD
	Drum Disposal Area at Tank Farm D	SAERA	NA	OU A ROD
	Elementary School (UST 42017-A)	SAERA	NA	OU A ROD
	Finger Bay Quonset Hut (UST FBQH-1)	SAERA	NA	OU A ROD
	Former Power Plant, Building T-1451	SAERA	NA	OU A ROD
	GCI Compound (UST GCI-1)	SAERA	OU A ROD, as amended	2005 Decision Document
	Girl Scout Camp (UST GS-1)	SAERA	NA	OU A ROD
	Housing Area (Arctic Acres)	SAERA	NA	OU A ROD
	Housing Outfall Area (Sandy Cove)	SAERA	NA	OU A ROD
	Kuluk Housing (UST HST-6C)	SAERA	NA	OU A ROD
	Kuluk Recreation Center (UST 30034)	SAERA	NA	OU A ROD
	Line Crew Building (USTs 2776, 2776-B, and 2776-C)	SAERA	NA	OU A ROD

Table 2-2 (Continued)
CERCLA and Petroleum Sites Listed or Evaluated on Adak Island

SWMU or SA No.[a]	Site Name[b]	Listed or Investigated Under	Interim Remedy	Final Remedy
	Loran Station (USTs V149A, V149B, and V149C)	SAERA	NA	OU A ROD
	MAUW Compound (UST 24000-A)	SAERA	NA	OU A ROD
	MAUW Compound (UST 24032-B)	SAERA	NA	OU A ROD
	McDonalds UST	SAERA	NA	OU A ROD
	Medical Center (UST 27088)	SAERA	NA	OU A ROD
	Mount Moffett Power Plant 5 (Used Oil AST)	SAERA	NA	OU A ROD
	Mount Moffett Power Plant 5 (Used Oil Pit)	SAERA	NA	OU A ROD
	Mount Moffett Power Plant 5 (USTs 10574 through 10577)	SAERA	NA	OU A ROD
	Mount Moffett Tower (Mogas AST and Used Oil AST)	SAERA	NA	OU A ROD
	NAVFAC Compound (USTs 20052 and 20053)	SAERA	NA	OU A ROD
	Navy Exchange Building (UST 30026)	SAERA	NA	OU A ROD
	Navy Exchange Building (UST 30027-A)	SAERA	NA	OU A ROD
	Navy Exchange Building (UST 30033)	SAERA	NA	OU A ROD
	New Roberts Housing (UST HST-7C)	SAERA	NA	OU A ROD
	New Transportation Building (O/W 10644)	SAERA	NA	OU A ROD
	New Transportation Building (UST 10590)	SAERA	NA	OU A ROD
	New Transportation Building (UST 10591)	SAERA	NA	OU A ROD
	NMCB Building Area, T-1416 Expanded Area	SAERA	OU A ROD, as amended	2006 Decision Document
	NMCB Building (UST T-1416-A)	SAERA	OU A ROD, as amended	2006 Decision Document
	NORPAC Hill Seep Area	SAERA	OU A ROD, as amended	2005 Decision Document
	NSGA Filling Station, Mogas and JP-5 ASTs	SAERA	NA	OU A ROD
	Officer Hill and Amulet Housing (UST 31047-A)	SAERA	NA	OU A ROD
	Officer Hill and Amulet Housing (UST 31049-A)	SAERA	NA	OU A ROD
	Officer Hill and Amulet Housing (UST 31050-A)	SAERA	NA	OU A ROD
	Officer Hill and Amulet Housing (UST 31051-A)	SAERA	NA	OU A ROD
	Officer Hill and Amulet Housing (UST 31052-A)	SAERA	NA	OU A ROD
	Officer Hill and Amulet Housing (UST 31053-A)	SAERA	NA	OU A ROD
	Old Fuel Truck Shop (UST 10520-A)	SAERA	NA	OU A ROD

Table 2-2 (Continued)
CERCLA and Petroleum Sites Listed or Evaluated on Adak Island

SWMU or SA No.[a]	Site Name[b]	Listed or Investigated Under	Interim Remedy	Final Remedy
	Old Fuel Truck Shop (UST 10520-B)	SAERA	NA	OU A ROD
	Pantograph Pad (UST RT-1)	SAERA	NA	OU A ROD
	Pumphouse 5 Area	SAERA	NA	OU A ROD
	Quarters A	SAERA	NA	OU A ROD
	ROICC Contractor's Area (UST ROICC-5)	SAERA	NA	OU A ROD
	ROICC Contractor's Area (UST ROICC-6)	SAERA	NA	OU A ROD
	ROICC Contractor's Area (UST ROICC-7)	SAERA	NA	OU A ROD
	ROICC Contractor's Area (UST ROICC-8)	SAERA	NA	OU A ROD
	ROICC Warehouse (UST ROICC-1)	SAERA	NA	OU A ROD
	ROICC Warehouse (UST ROICC-2)	SAERA	NA	OU A ROD
	ROICC Warehouse (UST ROICC-3)	SAERA	NA	OU A ROD
	ROICC Warehouse (UST ROICC-4)	SAERA	NA	OU A ROD
	Runway 5-23 Avgas Valve Pit	SAERA	NA	OU A ROD
	Sewage Lift Station 10 (UST 42483-A)	SAERA	NA	OU A ROD
	Sewage Lift Station 11 (UST 42484-A)	SAERA	NA	OU A ROD
	Shack O-52 (UST O-52)	SAERA	NA	OU A ROD
	Shack O-69 (UST B)	SAERA	NA	OU A ROD
	South Avgas Pipeline at North Sweeper Creek	SAERA	NA	OU A ROD
	South of Runway 18-36 Area	SAERA	OU A ROD, as amended	2006 Decision Document
	Tanker Shed (UST 42494)	SAERA	OU A ROD, as amended	2005 Decision Document
	Telephone Exchange Building (UST 10324-A)	SAERA	NA	OU A ROD
	Telephone Substation T-100 (UST T-100-B)	SAERA	NA	OU A ROD
	TFB to TFC Pipeline—Area A	SAERA	NA	OU A ROD
	TFB to TFC Pipeline—Area B	SAERA	NA	OU A ROD
	TFB to TFC Pipeline—Area C	SAERA	NA	OU A ROD
	TFB to TFC Pipeline—Area D	SAERA	NA	OU A ROD
	TFB to TFC Pipeline—Area E (Truck Fill Stand)	SAERA	NA	OU A ROD
	TFB to TFC Pipeline—Area F	SAERA	NA	OU A ROD
	TFB to TFC Pipeline—Area G	SAERA	NA	OU A ROD
	TFC to NSGA Pipeline—Area A	SAERA	NA	OU A ROD
	TFC to NSGA Pipeline—Area B	SAERA	NA	OU A ROD
	TFC to NSGA Pipeline—Area C	SAERA	NA	OU A ROD
	TFC to NSGA Pipeline—Area D	SAERA	NA	OU A ROD
	TFC to NSGA Pipeline—Area E (Truck Fill Stand)	SAERA	NA	OU A ROD

Table 2-2 (Continued)
CERCLA and Petroleum Sites Listed or Evaluated on Adak Island

SWMU or SA No.[a]	Site Name[b]	Listed or Investigated Under	Interim Remedy	Final Remedy
	USGS (NOAA) Building (USTs NOAA-A, -C, and -D)	SAERA	NA	OU A ROD
	Yakutat Hangar (UST T-2039-A)	SAERA	OU A ROD, as amended	2005 Decision Document
	Yakutat Hangar (USTs T-2039-B and T-2039-C)	SAERA	NA	OU A ROD

[a]Sites are listed first by SWMU or SA number, then by water body, then by alphabetical petroleum site name.
[b]First name shown is name under CERCLA; alternative name (“a.k.a. _____”) is name under SAERA.
[c]SWMUs 1 (CERCLA portion only), 2 (minefield portion only), and 8 and SA 93 will be evaluated in the OU B process. The SAERA portion of SWMU 1 and the landfill portion of SWMU 2 were evaluated in the OU A ROD.
[d]SWMU or SA numbers were assigned only to sites in the Federal Facilities Agreement.

Notes:
AIMD - Aircraft Intermediate Maintenance Detachment
AST - aboveground storage tank
avgas - aviation gasoline
CDAA - circular disposed antenna array
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
DEC-SW - Alaska Department of Environmental Conservation Solid Waste Regulation
DRMO - Defense Reutilization Marketing Office
GCI - General Communications, Inc.
GSE - ground support equipment
JP-5 - jet petroleum No. 5
Loran - long-range navigation
MAUW - modified advanced underwater weapons
NA - not applicable
NAVFAC - Naval Facility
NMCB - Naval Mobile Construction Battalion
NOAA - National Oceanic and Atmospheric Administration
NORPAC - North Pacific
NSGA - Naval Security Group Activity
OB/OD - open burn/open detonation
O/W - oil/water separator
PCB - polychlorinated biphenyl
RCRA - Resource Conservation and Recovery Act
ROD - record of decision
ROICC - resident officer in charge of construction
SA - source area
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit
TFB - Tank Farm B
TFC - Tank Farm C
USGS - U.S. Geological Survey
UST - underground storage tank

Table 2-3
No Further Action CERCLA Sites as Documented in the OU A ROD

Site[a]
SWMU 3, Clam Lagoon Landfill
SWMU 5, North Davis Road Landfill
SWMU 6, Andrew Lake Drum Disposal Area 1
SWMU 7, Andrew Lake Drum Disposal Area 2
SWMU 9, Black Power Club
SWMU 21B, White Alice Lower Quarry
SWMU 21C, White Alice East Disposal Area
SWMU 24, Hazardous Waste Storage Facility — RCRA Closure under FFCA[b]
SWMU 26, Mitt Lake Drum Disposal Area
SWMU 27, Lake Leone Drum Disposal Area
SWMU 28, Lake Betty Drum Disposal Area
SWMU 30, Magazine 4 Landfill
SWMU 42, GSE Steam Clean Oil/Water Separator
SWMU 43, AIMD Acid Battery Storage Area
SWMU 51, NSGA Transportation Bldg. 10354 Waste Storage Area
SWMU 54, NMCB Battery Storage
SWMU 65, Contractor's Camp Fire/Demolition Site
SWMU 66, Palisades Lake PCB spill
SWMU 68, New Pesticide Storage Area
SWMU 69, Ski Lodge Waste Pile
SWMU 70, Davis Road Asphalt Drums
SWMU 71, NSGA Fueling Facility[c]
SWMU 72, NSGA Transportation Building 10354
SWMU 74, Old Batch Facility
SA 75, Asphalt Storage Area
SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area — RCRA Closure under FFCA[e]
SA 83, Former Chiefs Club Station
SA 90, Husky Road Landfill
SA 91, Airplane Crash Sites
SA 92, Waste Ordnance Pile (Fin Field)
SA 94, Chemical Weapons Disposal Area
SA 95, Transformer Disposal Area
Clam Lagoon
Andrew Lake

[a]The total number of no further action CERCLA sites is 34, and the total number of no further action petroleum sites is 82 (see Table 2-4). However, the total number of no further action sites is 114 not 116, because SWMUs 24 and 74 are listed under both CERCLA and petroleum sites.
[b]SWMU 24, Hazardous Waste Storage Facility is included as a no further action site for both RCRA and petroleum sites (see Table 2-4).
[c]SWMU 74, Old Batch Facility is included as a no further action site for both CERCLA and petroleum sites (see Table 2-4).

Table 2-3 (Continued)
No Further Action CERCLA Sites as Documented in the OU A ROD

[d]This site is both a RCRA and SAERA site. This site is a no further action site under RCRA, as shown in this table. The selected remedial alternative under SAERA is limited soil removal (see Figure 2-2).

Notes:
This list of sites only includes those sites that were designated as no further action sites in the OU A ROD. Sites that have achieved no further action status after the execution of the ROD are not included in this table.
AIMD - Aircraft Intermediate Maintenance Detachment
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
FFCA - Federal Facilities Compliance Agreement
GSE - ground support equipment
NMCB - Naval Mobile Construction Battalion
NSGA - Naval Security Group Activity
OU - operable unit
PCB - polychlorinated biphenyl
RCRA - Resource Conservation and Recovery Act
SA - source area
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit

Table 2-4
No Further Action Petroleum Sites as Documented in the OU A ROD

Site[a]
Administration Building (UST 30004-A)
Armory (UST 10311-A)
Artillery Battalion (USTs ART-1 and ART-2)
Bering Chapel (UST 42090-A)
Boy Scout Camp, South Haven Lake (UST BS-2)
CDAA Complex (USTs 10580 and 10654)
Clam Road Truck Fill Stand
Cold Storage Facility (AST T-1440)
Contractor’s Pad UST T-1706 (Navy Pad)
Drum Disposal Area at Tank Farm D
Elementary School (UST 42017-A)
Housing Outfall Area (Sandy Cove)
Kuluk Housing (UST HST-6C)
Kuluk Recreation Center (UST 30034)
Line Crew Building (USTs 2776, 2776-B, and 2776-C)
Loran Station (USTs V149A, V149B, and V149C)
MAUW Compound (UST 24032-B)
McDonald’s UST
Medical Center (UST 27088)
Mount Moffett Power Plant 5 (Used Oil AST)
Mount Moffett Power Plant 5 (Used Oil Pit)
Mount Moffett Tower (Mogas AST and Used Oil AST)
Navy Exchange Building (UST 30026)
Navy Exchange Building (UST 30033)
New Transportation Building (O/W 10644)
New Transportation Building (UST 10590)
New Transportation Building (UST 10591)
NSGA Filling Station, Mogas and JP-5 ASTs
Officer Hill and Amulet Housing (UST 31050-A)
Officer Hill and Amulet Housing (UST 31051-A)
Officer Hill and Amulet Housing (UST 31053-A)
Old Fuel Truck Shop (UST 10520-A)
Old Fuel Truck Shop (UST 10520-B)
Pantograph Pad (UST RT-1)
Pumphouse 5 Area
ROICC Contractor’s Area (UST ROICC-5)
ROICC Contractor’s Area (UST ROICC-6)
ROICC Warehouse (UST ROICC-1)
ROICC Warehouse (UST ROICC-4)
SA 81, Gun Turret Hill
SA 84, Sand Shed

Table 2-4 (Continued)
No Further Action Petroleum Sites as Documented in the OU A ROD

Site[a]
SA 85, New Baler Building
SA 86, Old Happy Valley Child Care Center
SA 87, Old Zeto Point Wizard Station
SA 89, Tank Farm C
SA 96, NORPAC Hill Debris Site
SA 97, Generator Debris Site
Sewage Life Station 10 (UST 42483-A)
Sewage Lift Station 11 (UST 42484-A)
Shack O-52 (UST O-52)
Shack 0-69 (UST B)
South Avgas Pipeline at North Sweeper Creek
SWMU 1, Andrew Lake OB/OD and Range
SWMU 12, Quartermaster Road Debris Disposal Area
SWMU 22, Avgas Drum Storage Area South of Tank Farm 1
SWMU 24, Hazardous Waste Storage Facility[b]
SWMU 31, Runway 18-36 Aviation Gas Drum Disposal
SWMU 34, Steam Plant 4 Used Oil AST
SWMU 35, Ground Support Equipment Building
SWMU 41, GSE Used Oil Storage Area
SWMU 44, AIMD Used Oil Storage Area
SWMU 45, Sewage Treatment Plan Petroleum Contamination (including SWMUs 46 through 50)
SWMU 55, Public Works Transportation Department Waste Storage Area[c]
SWMU 56, Public Works Transportation Department Storage Tank
SWMU 57, Fuels Facility Refueling Dock
SWMU 64, Tank Farm D
SWMU 74, Old Batch Facility[d]
Telephone Exchange Building (UST 10324-A)
Telephone Substation T-100 (UST T-100-B)
TFB to TFC Pipeline—Area A
TFB to TFC Pipeline—Area B
TFB to TFC Pipeline—Area C
TFB to TFC Pipeline—Area D
TFB to TFC Pipeline—Area E (Truck Fill Stand)
TFB to TFC Pipeline—Area F
TFB to TFC Pipeline—Area G
TFC to NSGA Pipeline—Area A
TFC to NSGA Pipeline—Area B
TFC to NSGA Pipeline—Area C
TFC to NSGA Pipeline—Area D
TFC to NSGA Pipeline—Area E
USGS (NOAA) Building (USTs NOAA-A, -C, and -D)

Table 2-4 (Continued)
No Further Action Petroleum Sites as Documented in the OU A ROD

[a]The total number of no further action petroleum sites is 82, and the total number of no further action CERCLA sites is 34 (see Table 2-3). However, the total number of no further action sites is 114 not 116, because SWMUs 24 and 74 are both listed under CERCLA and petroleum sites.
[b]SWMU 24, Hazardous Waste Storage Facility is included as a no further action site for both RCRA (see Table 2-3) and SAERA sites.
[c]This site is both a CERCLA and SAERA site. This site is a no further action site under SAERA as shown in this table. The selected remedial alternative under CERCLA is institutional controls (see Figure 2-1).
[d]SWMU 74, Old Batch Facility is included as a no further action site for both CERCLA (see Table 2-3) and SAERA sites.

Notes:
This list of sites only includes those sites that were designated as no further action sites in the OU A ROD. Sites that have achieved no further action status after the execution of the ROD are not included in this table.
AIMD - Aircraft Intermediate Maintenance Detachment
AST - aboveground storage tank
avgas - aviation gasoline
CDAA - circular disposed antenna array
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
GSE - ground support equipment
JP-5 - jet petroleum No. 5
loran - long-range navigation
MAUW - modified advanced underwater weapons
mogas - motor vehicle gasoline
NOAA - National Oceanic and Atmospheric Administration
NORPAC - North Pacific
NSGA - Naval Security Group Activity
OB/OD - ordnance burn, ordnance detonation
OU - operable unit
RCRA - Resource Conservation and Recovery Act
ROICC - resident officer in charge of construction
SA - source area
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit
TFB - Tank Farm B
TFC - Tank Farm C
USGS - U.S. Geological Survey
UST - underground storage tank

3.0 BACKGROUND

Military presence on Adak began in 1942 with its occupation as a staging area to mount a counter-offensive to dislodge the Japanese from Attu and Kiska Islands. The Navy presence at Adak was officially recognized by Public Land Order 1949, dated August 19, 1959, which withdrew the northern portion of Adak Island, comprising approximately 76,800 acres, for use by the Navy for military purposes. The Navy also used the base to conduct a variety of Cold War-era military activities. Naval Air Facility Adak was on the list of Department of Defense installations recommended for closure in 1995, and that recommendation became final when Congress did not disapprove the list. The active Navy mission ceased, and the base operationally closed on March 31, 1997.

From April 1997 through September 2000, critical facilities such as the power plant, airfield, and environmental cleanup systems were operated by the Navy through a caretaker contractor. In June 1998, the Navy entered into a lease with the Adak Reuse Corporation (ARC), the designated local redevelopment authority that authorized ARC to use or sublease property in the developed core of the military reservation for commercial reuse purposes. In October 2000, ARC commenced operation of community facilities such as the airfield and utility systems in support of reuse activities under the authority of this lease.

In September 2000, the federal government entered into a land transfer agreement with The Aleut Corporation (TAC), a Native corporation, as documented in the Interim Conveyance document issued by the U.S. Department of the Interior, Bureau of Land Management. This agreement set forth the terms and conditions for the conveyance of approximately 47,000 acres of the former Adak Naval Complex property to TAC. The actual conveyance or transfer of property occurred on March 17, 2004. The Interim Conveyance document is published as Attachment D-1 of the ICMP, which is Appendix D of the CMP, Revision 4 (U.S. Navy 2010a). The land transfer included all of the downtown area, housing units, and industrial facilities. Excluded from this transfer are any offshore islands, islets, rocks, reefs, and spires; those fixtures and equipment owned by the United States and associated with the airfield; those improvements owned by the United States and managed by the Federal Aviation Administration; and those improvements owned by the United States and managed by the U.S. Fish and Wildlife Service (USFWS). TAC transferred the portion of the former Adak Naval Complex known as Adak Airport, associated facilities, and aviation easements, not including Federal Aviation Administration navigation aids or weather reporting equipment, to the State of Alaska.

3.1 OPERABLE UNIT A

OU A addresses chemical releases to the environment throughout the entire military reservation. The investigation and remediation of OU A sites involved state regulations, as well as CERCLA and RCRA procedures. As discussed in Section 2, a total of 180 sites were evaluated for OU A. Two of these sites were deferred to OU B (SWMU 8 and SA 93). Of the remaining 178 sites, 121 sites were petroleum sites, 50 sites were investigated under CERCLA (including the 5 water bodies), 5 were investigated under both CERCLA and SAERA, and 2 were investigated under both RCRA and SAERA. Figure 2-1 presents an overview of the process used to evaluate OU A CERCLA sites, and Figure 2-2 presents an overview of the process used to evaluate OU A petroleum sites.

The site history, use, wastes generated, and chemicals of concern (COCs) are summarized in the Site Catalog (Appendix A) for each CERCLA, RCRA, and SAERA site that required remedial action. Information in the Site Catalog includes the basis for taking action at each site and summarizes activities up through signing of the OU A ROD (this is the information typically included in Section 3 of a 5-year review). The Site Catalog also includes information for each site that would typically be included in later sections of the 5-year review report, such as remedy implementation and operation, maintenance, and monitoring.

3.2 OPERABLE UNIT B

Overall, OU B addresses ordnance explosive safety hazards and human health and ecological risks associated with munitions constituents (MC). Because CERCLA does not include specific provisions associated with explosive hazards related to ordnance, the OU B Project Team was created to develop an investigation and cleanup approach for OU B consistent with the CERCLA process and acceptable to Adak stakeholders. The OU B Project Team originally consisted of representatives from the Navy, EPA, ADEC, USFWS, TAC, and the Aleutian/Pribilof Island Association. Currently TAC and the Aleutian/Pribilof Island Association do not participate, but are kept apprised. The Project Team was tasked to design an Adak-unique, CERCLA-consistent approach to identify, evaluate, and remediate sites potentially contaminated with ordnance.

The Project Team developed a two-part evaluation of risk, based on an evaluation of hazard assessment approaches. Part 1 was considered the preliminary assessment, an initial screening to determine if potential sites should be retained for evaluation through the remedial investigation/feasibility study (RI/FS) process or designated as sites requiring no further action (NOFA) and elimination from the RI/FS process. NOFA is different from NFA, the designation used for OU A sites. NOFA includes the continuation of the Adak Land Use Control (LUC) and Unexploded Ordnance (UXO) Education Awareness Program and the inclusion of a deed notice pursuant to CERCLA 120(h)(3)(A)(i) or other suitable information on munitions and explosives of concern (MEC) in the Bureau of Land Management's permanent file concerning the conveyance.[1] Under Part 1, 183 ordnance sites were initially evaluated, and 78 of the sites were given a NOFA designation, as reported in the preliminary assessment report (U.S. Navy 2000c). During the preliminary assessment process, four new sites were added to the overall list (see Figure 3-1).

Part 2 was the development of a site-specific explosives safety hazard assessment (ESHA) methodology to evaluate data provided by the RI process. The ESHA methodology is qualitative in nature, but makes use of both qualitative and quantitative inputs in a framework that results in a relative-risk ranking ranging from low risk (A) to extreme risk (E). Sites scored as an "A" or "B" were recommended for NOFA. Those scored with a "C" or "D" were recommended for further investigation or remediation. No site received a score of "E." In addition to potential explosive safety hazards, an evaluation of risk-based screening criteria for MC in soils was developed for sites on Adak where limited releases of MC may have occurred.

In 2001, OU B was subdivided into OU B-1 and OU B-2 to expedite transfer of real estate by placing a higher priority on completing the investigation and remediation of OU B-1 sites located within real estate planned for transfer to TAC (OU B-1 sites are shown on Figure 3-2 and OU B-2 sites undergoing the RI/FS process are shown on Figure 3-3). Parcel 4 includes all of the land currently retained by the Navy on Adak Island (see Figure 3-3 for the Parcel 4 boundaries) and encompasses a small percentage of the OU B-1 sites and all of the OU B-2 sites identified for further evaluation in the preliminary assessment. As shown on Figure 3-1, 155 sites are addressed under OU B-1, 6 sites will be addressed under the Formerly Used Defense Site program, and the remainder will be addressed as part of OU B-2.

3.2.1 Operable Unit B-1

The sites in OU B-1 include the downtown and remote exchange areas identified for land transfer. Of the 183 sites identified in the preliminary assessment, 118 were designated as OU B-1 sites (see Figure 3-1). In addition, 2 new sites were added to OU B-1 after completion of the preliminary assessment, and 12 additional sites were created after completion of the preliminary assessment by splitting 7 existing sites into between 2 and 6 new sites. Therefore, a total of 132 sites were originally designated as OU B-1 sites. Twenty-three sites were later transferred from OU B-2 to OU B-1, including MM-04, MM-22, and MM-23. (A listing of all of

[1]Note that during the development of the OU B-2 RI/FS the term "NOFA" was changed to "Limited Action" in order to more clearly show that limited actions, or more specifically institutional controls, are required at these sites (U.S. Navy 2011f). However, the use of NOFA is retained in this document when discussing the results of the preliminary assessment for all OU B sites and for all discussions pertaining to OU B-1 sites in order to be consistent with the terminology used in the preliminary assessment and the OU B-1 ROD (U.S. Navy 2000c and U.S. Navy, USEPA, and ADEC 2001).

the transferred sites is included in the footnotes of Table 3-1.) Therefore, the OU B-1 ROD included 155 sites (U.S. Navy, USEPA, and ADEC 2001). Table 3-1 presents the results of the preliminary assessment for all the OU B-1 sites that were included in the ROD. Two sites, MM-22 and MM-23, were incorporated into MM-04, reducing the number of OU B-1 sites to 153. During the 2004 field season, the Navy established two new sites (MM-10F and MM-10G) within the boundaries of MM-10E. In addition, a new site (MM-10H) was established within the boundaries of MM-10E during a site certification meeting on December 8, 2004. As a result, the final count of OU B-1 sites is 156.

Of the 156 sites, 62 sites were identified as NOFA in the preliminary assessment, including 60 sites originally designated as OU B-1 sites and 2 sites transferred from OU B-2 to OU B-1. Three of the 62 sites originally categorized as NOFA were later determined to require further investigation in the RI (U.S. Navy 2001c). The remaining 94 sites, which include 17 new sites added after the preliminary assessment, required either a site inspection, RI, or evaluation in the FS (U.S. Navy 2001c).

Site background, removal actions (if any), and RI/FS results for the 50 sites that required further action in the OU B-1 ROD (including the three new sites, MM-10F, MM-10G, and MM-10H, identified in 2004 that are located within or adjacent to MM-10E) are provided in the Site Catalog (Appendix A). Selected remedies, implementation, and operation and maintenance for the sites are presented in Section 4.

3.2.2 Operable Unit B-2

OU B-2 addresses ordnance explosive safety hazards and human health and ecological risks associated with MC in areas identified for possible retention by the Navy. Of the 183 sites identified in the preliminary assessment, 59 were designated as OU B-2 sites (see Figure 3-1). In addition, three new sites JM-01, MM-23, and LJ-02A were added after completion of the preliminary assessment. Therefore, a total of 62 sites were originally designated as OU B-2 sites. Twenty-three of these 62 sites were later transferred to OU B-1, including MM-23. A listing of all of the transferred sites is included in the footnotes of Table 3-1. Therefore, 39 sites are currently designated as OU B-2. These sites are listed in Table 3-2, and site background information is provided for each site. In the preliminary assessment, 16 of the 39 sites were identified as NOFA sites, and 23 of the 39 sites were identified as requiring further evaluation in an RI. (Note that for all OU B-2 sites the current term for NOFA is “Limited Action.” [Refer to footnote 1 in Section 3.2.]) One of the 16 sites originally identified as a NOFA site was later identified as requiring further evaluation in the RI. Therefore, 24 OU B-2 sites are in the RI/FS stage of the CERCLA process (U.S. Navy 20011e and 2011f). The 24 OU B-2 sites undergoing the RI/FS process are shown on Figure 3-3 and are within land transfer Parcel 4.

Data at OU B-2 sites potentially contaminated with MEC and MC were collected in 1999, 2000, and 2008 (U.S. Navy 2011e). In addition, data were collected in 2004 at one OU B-2 site, LJ-02A, during OU B-1 remedial actions. Data from the these investigations were reviewed to determine whether the information was adequate to assess risk and evaluate remedial alternatives in an FS. Data gaps were identified at 18 of the OU B-2 sites. The RI was conducted in 2008 to fill the identified data gaps at the 18 sites. Existing information was deemed sufficient to conclude that Limited Action was required at five OU B-2 sites (BC-03, JM-01, LJ-02A, MM-10D, and RR-03). (Note: In the 2011 draft final FS, the term NOFA was replaced by Limited Action, as discussed previously [U.S. Navy 2011f]). In addition to the five Limited Action sites, earlier investigations had concluded that conditions at one site (RG-01) were sufficiently hazardous to merit removal of MEC under a non-time-critical removal action, so further investigation of this site was not performed during the 2008 RI. The non-time-critical removal action at RG-01 was conducted during the 2006 and 2008 field seasons. Data collected at RG-01 during the removal action were summarized in the RI to complete the ESHA and chemical risk assessment evaluations that were used to determine whether further action is required at the site. The RI/FS concluded that characterization and remediation of RG-01 was completed during the non-time-critical removal action, and only Limited Action was required at RG-01 (U.S. Navy 2011e and 2011f).

The MEC data collected during the 1999, 2000, and 2008 investigations were used to determine the nature and extent of contamination, complete the Adak conceptual site model, and as input to an Adak-specific ESHA tool used to determine the potential magnitude of the risk/hazard present at MEC sites. The data used for this analysis included reconnaissance observations concerning site accessibility and the potential for MEC to be transported beyond site boundaries by erosion or slope failure, instrument-aided visual surveys for the presence of MEC, and geophysical/intrusive investigation data. In addition, samples were collected at 11 sites for chemical analysis during the 2008 RI. Analytical data were used to characterize potential risks posed to human and ecological receptors exposed to MC in site soils, sediment, surface water, and groundwater. The nature of potential MC contamination in soil, sediment, surface water, and groundwater was characterized by comparing the individual sample results collected at the site (including samples collected during previous investigations) to conservative risk-based screening levels. The results of the MEC and MC risk evaluations were used to determine the need for further action to address unacceptable risk.

Potential remedial alternatives for addressing the identified risks are being evaluated and documented in an FS report (U.S. Navy 2011e). The Navy continues to monitor and maintain access deterrents, signs, and fences as interim engineering controls (ECs) to limit access to OU B-2 sites while a remedy is being selected for the OU B-2 sites.

3.3 OTHER ENVIRONMENTAL CONCERNS

This section summarizes environmental work performed on Adak that was not specifically identified in any of the RODs or decision documents. This work includes the investigation and remediation of the new Tango Pad site in 2006, RI/FS activities at the new Area 303 site from 2006 through 2008, and fuel pipeline decommissioning activities in the downtown area in 2009. The work described in this section is not related to CERCLA and is being performed in accordance with SAERA. Information on these environmental activities is summarized below.

3.3.1 Tango Pad

During 2000, surface soil staining was observed in the vicinity of an aboveground storage tank (AST) at the Tango Pad site (ADEC 2000). The 1,500-gallon AST was formerly used by Tango Construction to store motor gasoline (mogas). The site is located along Forest Road near the southeastern corner of the Contractor's Camp area. The former AST is located at the north end of a raised concrete pad. The stained soil was observed at the base of the northern end of the raised concrete pad, beneath the AST. An unknown quantity of gasoline-range fuel was released at the site, resulting in the observed soil staining.

A limited soil removal was performed at the time of the release discovery, and all remaining fuel was removed from the AST. A quantity of petroleum-contaminated soil sufficient to fill one 55-gallon drum was removed for treatment and/or disposal. The soil removal was terminated at a depth of approximately 1.5 feet bgs.

During 2006, an investigation of the Tango Pad site was conducted (U.S. Navy 2007a). Investigation activities at the Tango Pad site consisted of groundwater and soil sampling. Groundwater samples were collected from four locations at the site between June 5 and 24, 2006. Total lead was the only analyte detected at concentrations in excess of its ADEC groundwater cleanup level. Total lead was detected at only one location slightly above its ADEC groundwater cleanup level. This location is to the west of the former AST. Dissolved lead was not detected, in any of the submitted samples above method detection limits.

Drilling and soil sampling were conducted between June 4 and 7, 2006. A total of nine soil borings were advanced in the general area of the former spill. Soil samples were collected at the surface of the primary groundwater unit (approximately 8 feet bgs) in all borings. At the three locations nearest to the spill area, soil samples were also collected from the vadose zone. Exceedances of the ADEC soil cleanup levels were detected in samples from two borings. These samples were collected near the top of the groundwater in both borings.

Based on the results of the soil investigation at the Tango Pad site, a small zone of soil was identified as being impacted above the applicable ADEC soil cleanup levels. This zone is located near the groundwater surface at approximately 7 to 9 feet bgs, surrounding two borings where detected concentrations of petroleum hydrocarbons exceeded the ADEC soil cleanup levels. Detections of total petroleum hydrocarbons, volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbon (PAHs) (below their respective criteria) were also noted in one additional boring. However, a subsurface obstruction prevented the advancement of that boring past 4 feet bgs. Since this boring is closer to the former fuel AST than the two other borings that showed exceedances, the soils at this location are likely also impacted at levels above the ADEC soil cleanup levels.

The Tango Pad removal action was conducted in July 2006 and included the following activities: cleaning the AST, excavating petroleum-contaminated soil exceeding ADEC cleanup levels, collecting and analyzing confirmation samples, and restoring the site (U.S. Navy 2007b). The AST was emptied of approximately 50 gallons of water and residual fuel and cleaned by triple rinsing on July 13. Once cleaned, the tank was labeled empty and left in place. The excavation of petroleum-contaminated soil was centered on the soil boring with the highest concentrations of petroleum compounds. It proceeded to a depth of 8.3 feet, with horizontal dimensions of approximately 20 by 10 feet. Contaminated soil was generally found at depths of 5 and 8 feet bgs, which corresponds to the site investigation sampling results. In total, 26 cubic yards of petroleum-contaminated soil was excavated. Following excavation, confirmation soil samples were collected. The excavation and confirmation soil sampling were completed on July 22. Following the confirmation sampling, the Tango Pad site was backfilled and restored to its pre-excavation conditions.

Four confirmation soil samples and one field duplicate were collected at the bottom of the north, south, east, and west sidewalls of the excavation area. These samples were analyzed for gasoline-range organics (GRO), benzene, toluene, ethylbenzene, and xylenes. The analytical results for these compounds are as follows:

- Benzene was not detected at the site above reporting limits, which ranged from 0.008 to 0.013 mg/kg.
- GRO was detected in one sample at a concentration of 15 mg/kg.
- Ethylbenzene was detected in one sample at a concentration of 0.440 mg/kg.
- Toluene was detected in two samples at concentrations of 0.015 and 0.026 mg/kg.
- Xylenes were detected in samples collected from three locations at concentrations ranging from 0.022 to 4.3 mg/kg.

Results of the sampling confirmed that no chemical contamination exists at the site above the ADEC cleanup levels. Therefore, the closure report recommended no further action for this site. ADEC concurred that the Tango Pad Spill Area met ADEC's requirements for full site closure (ADEC 2007b).

3.3.2 Area 303

The petroleum-release site designated Area 303 is located in downtown Adak between the air terminal and the former high school building. It is bounded by Airport Road to the north, Sandy Cove Housing area and the former high school building to the east, Eagle Bay Housing area and an unnamed dirt road to the south, and the air terminal to the west. Area 303 occupies approximately 23.8 acres that include disturbed commercial/industrial areas and open grass-covered areas.

Area 303 was not one of the petroleum-contaminated sites included in the OU A ROD. Area 303 was identified during a 2002 U.S. Geological Survey (USGS) investigation to monitor natural attenuation of petroleum in groundwater (USGS 2005). During the investigation, the USGS collected groundwater samples from 10 locations between the GCI Compound and the East Canal. The chemical analyses conducted on these samples identified the presence of GRO at concentrations that greatly exceeded the concentrations from samples collected within the GCI Compound source area. The distribution of GRO concentrations in the primary aquifer beneath Area 303 caused the USGS to conclude that a second overlapping GRO plume existed in this area. The USGS further stated that the second GRO plume was emanating from an unidentified source somewhere south or southwest of the GCI Compound source area.

Subsequent to the USGS investigation, the Navy conducted a follow-on investigation to characterize the GRO release, evaluate human health and ecological risks, and develop and evaluate remedial action alternatives (U.S. Navy 2008b). During the follow-on investigation, free product was identified at the site, and concentrations of petroleum-related chemicals were detected at concentrations above project screening levels. The results of the investigation suggested that the 8-inch-diameter aviation gasoline (avgas) pipeline along the eastern side of Main Road was likely the GRO source. Pipeline decommissioning activities performed in 2009 support this conclusion (see Section 3.3.5). Specifically, sections of the avgas pipeline within Area 303 failed the integrity test conducted as part of the decommissioning activities. Furthermore, none of the portions of the jet petroleum No. 5 (JP-5) pipeline within Area 303 failed the integrity test.

Human health and ecological risk assessments were conducted to assess whether petroleum at Area 303 would pose a potential unacceptable risk to human health or the environment if no cleanup actions were to take place. Risks (human health only) and hazards (human health and ecological) from exposure to petroleum compounds were estimated for each complete exposure pathway. The complete exposure pathways evaluated in the human health risk assessment included ingestion, dermal contact, and inhalation of chemicals in soil by construction workers and dermal contact and inhalation of chemicals in groundwater by construction workers. Risks and hazards resulting from exposure to soil and groundwater were estimated based on groundwater not being used as drinking water source, because institutional controls (ICs) prohibit the use of groundwater. The potential risks to construction workers resulting from exposure to subsurface soil and groundwater were found to be below target health goals. Therefore, petroleum-related chemicals at the site pose no unacceptable risk, provided that ICs remain in effect prohibiting the use of groundwater as a drinking water source. In addition, the ecological risk assessment concluded that no ecological threat exists to ecological receptors at Area 303.

Based on risks being below target health goals and regulatory requirements, three RAOs were established for the site: reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to ADEC groundwater cleanup levels, minimize exposure to free product, and prevent migration of petroleum hydrocarbons to surface water that would lead to an exceedance of ADEC surface water quality criteria. Four alternatives were evaluated for Area 303 in the focused feasibility study (FFS), including no action, limited groundwater monitoring, monitored natural attenuation and ICs, and free-product recovery (U.S Navy 2008b). In a draft proposed plan submitted to ADEC and the stakeholders in July 2008, monitored natural attenuation, ICs, and free-product recovery were proposed by the Navy as the cleanup alternatives for the site (U.S. Navy and ADEC 2008a).

Following submittal of the draft proposed plan, the regulatory agencies and stakeholders questioned whether the proposed cleanup alternatives would be protective of human health for Eagle Bay Housing units adjacent to the site, or if buildings were constructed over contaminated areas at the site. To address these concerns, the Navy sampled soil vapor in 2010 at three locations (four depths at two locations and a single depth at one location because of shallow groundwater) within the Area 303 boundaries and used the data to characterize the movement of soil vapor through the subsurface and to predict indoor air concentrations in existing residential, future residential, and/or future commercial structures.

The results of the supplemental risk assessment performed using the 2010 soil vapor data (U.S. Navy 2011d) were that soil vapor concentrations in shallow soil vapor are unlikely to be present in concentrations that represent a health concern for the vapor intrusion pathway. The decommissioning of the gasoline pipeline has mitigated the potential for continued release to the environment and is expected to result in continued reduction of soil vapor concentrations beneath the site. In addition, fixed-gas data indicate that conditions are mostly favorable for petroleum biodegradation, further reducing the concern associated with vapor intrusion.

However, the elevated soil vapor concentrations measured at location SV-303-2 in the area where free product is present are indicative of a potential hot spot for construction workers (no indoor air hazards at this location). If construction activities (digging) were to occur over this location and assuming no attenuation of vapor concentrations has occurred, appropriate protective measures should be implemented to protect worker safety.

The recommendations of the 2008 FFS (monitored natural attenuation and ICs with free-phase product recovery) are still valid and protective of public health at the site. Because of a lack of analysis for chlorinated solvents in groundwater and the single detection of tetrachloroethene (PCE) in soil gas, the risk assessment recommended that the next round of groundwater monitoring include VOC analysis by EPA Method 8260 to evaluate the potential presence of chlorinated VOCs in Area 303 groundwater. Specifically, the following wells near the PCE detection in the soil vapor sample from SV-303-2-C should be sampled: MW-303-28, MW-303-29, MW-303-30, 03-107, HMW-303-5, and HMW-303-6. A revised proposed plan is being prepared for submittal to ADEC and stakeholders.

3.3.3 Fuel Pipeline Decommissioning

In 2009, fuel pipelines were decommissioned that were located in the downtown area of Adak where no documentation was available indicating that the pipelines had been previously cleaned and closed (U.S. Navy 2010c). These pipelines were decommissioned because residual fuel in the pipelines could potentially be an ongoing source of petroleum hydrocarbons to the subsurface. Pipelines were closed in accordance with state and federal regulatory requirements and included the following:

- The 6-inch JP-5 pipeline (Main Road pipeline) from the fuels facility to Steam Plant 4
- The 8-inch avgas pipeline from former Fuel Dock No. 7 to former Tank Farm B
- The 4-inch diesel pipeline from former Fuel Dock No. 7 to the intersection of Kagalaska Drive and Main Road
- The 12-inch diesel pipeline from former Fuel Dock No. 7 to former Tank Farm A
- The 8-inch mogas pipeline from former Fuel Dock No. 7 to former Tank Farm A
- The 3-inch mogas pipeline from the depression to just east of Building T-1446 (identified during decommissioning activities as an 8-inch line)
- Branch pipelines associated with the pipelines listed above

During the decommissioning efforts, some of the sections of pipelines listed above were found to have been previously decommissioned. Although the date of the previous decommissioning is unknown, visual inspection and verification in the field confirmed the completion of prior decommissioning. As a result of the field activities, 48,107 linear feet of pipelines were either physically decommissioned or were documented as having been previously decommissioned. The following pipelines were identified to have been previously decommissioned (sectioned and cut and filled with concrete):

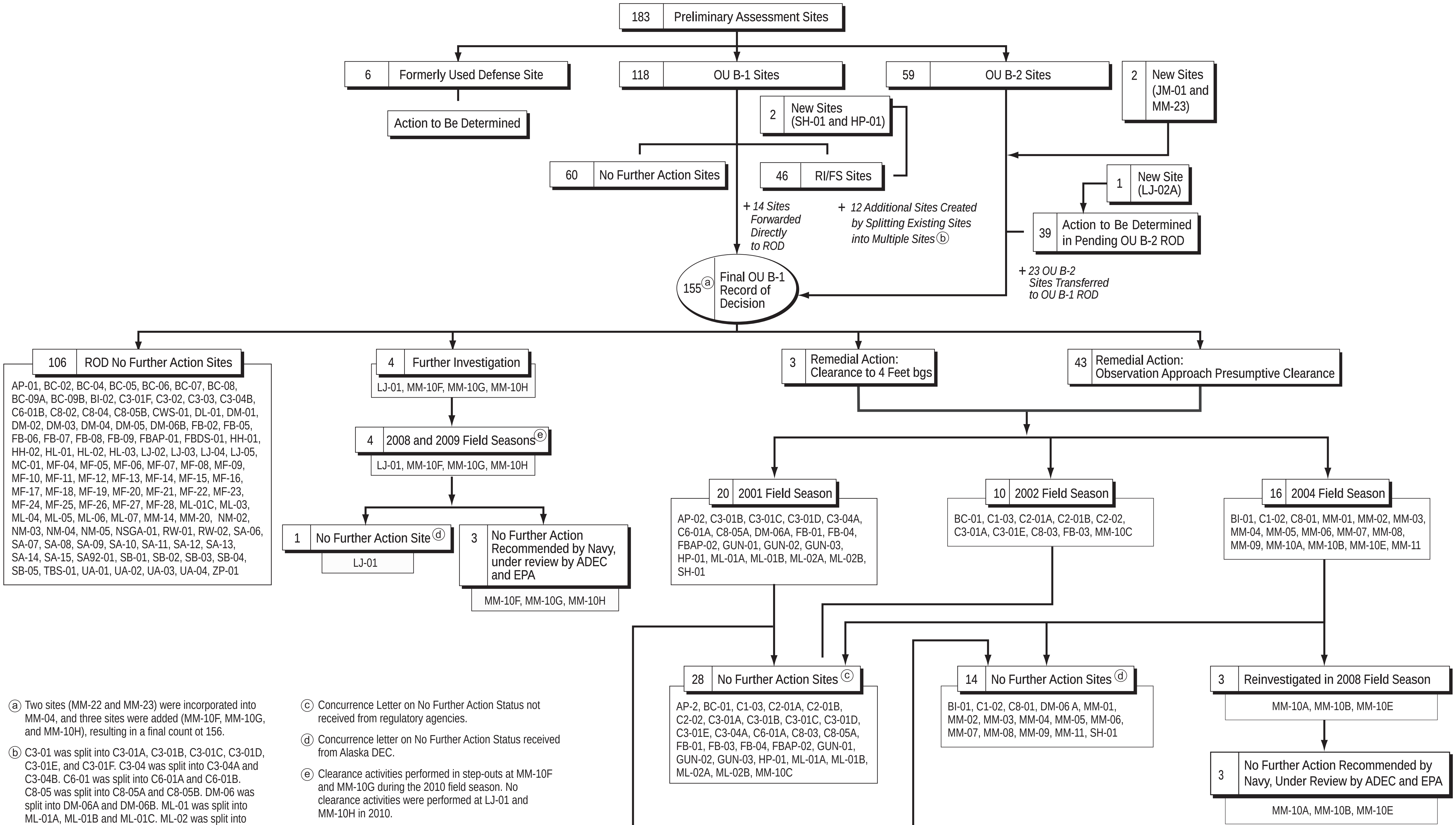
- The portion of the 8-inch mogas pipeline and the 12-inch diesel pipeline from former Fuel Dock No. 7 to former Tank Farm A located west of South Sweeper Creek
- The portion of the 4-inch diesel pipeline from former Fuel Dock No. 7 to the intersection of Kagalaska Drive and Main Road located parallel to the Main Road
- A portion of the 8-inch avgas pipeline north of Runway 5-23 and another portion just north of the former Fuel Dock No. 7
- The 6-inch avgas lateral in the vicinity of the Air Terminal Building and a portion of the 6-inch avgas lateral south of the Air Terminal Building area

Vacuum leak testing and field sampling of soils were implemented to identify areas of potential concern during the decommissioning activities. Six sections of pipeline failed the integrity testing, and only one of these sections was located in an area where contamination had not been previously documented. The four remaining sections were located in the vicinity of an area of known contamination. Along the one section of pipeline that failed the integrity test and was not located in an area of known contamination, six excavation/test pit soil samples were collected along the pipeline. No contamination was detected above the project screening values in the samples collected, nor were visual observations documented that identified the presence of contamination.

Field sampling procedures included visual observations made by the field team (e.g., odor, staining, discolored soil, and sheen) and use of a photoionization detector for detecting elevated volatile organics in the soil. In addition, 73 soil samples were collected and analyzed at an off-site laboratory for GRO, benzene, toluene, ethylbenzene, and xylenes (BTEX), and diesel-range organics (DRO). Of these 73 samples collected, only 9 samples had concentrations of petroleum hydrocarbons greater than project screening levels. Of these nine samples, only three were not associated with areas of known contamination. Further investigation in the vicinity of the six samples associated with areas of known contamination is not necessary. Two areas (representing the three samples) not associated with areas of known contamination require further investigation and include the following:

- A portion of the 8-inch avgas pipeline south of Runway 5-23
- A portion of 2.5-inch JP-5 lateral pipeline just north of Buildings 30022 and 30027

Further investigation of these two areas is not currently scheduled.



(a) Two sites (MM-22 and MM-23) were incorporated into MM-04, and three sites were added (MM-10F, MM-10G, and MM-10H), resulting in a final count ot 156.

(b) C3-01 was split into C3-01A, C3-01B, C3-01C, C3-01D, C3-01E, and C3-01F. C3-04 was split into C3-04A and C3-04B. C6-01 was split into C6-01A and C6-01B. C8-05 was split into C8-05A and C8-05B. DM-06 was split into DM-06A and DM-06B. ML-01 was split into ML-01A, ML-01B and ML-01C. ML-02 was split into ML-02A and ML-02B. The net effect of these changes is the addition of 12 sites.

(c) Concurrence Letter on No Further Action Status not received from regulatory agencies.

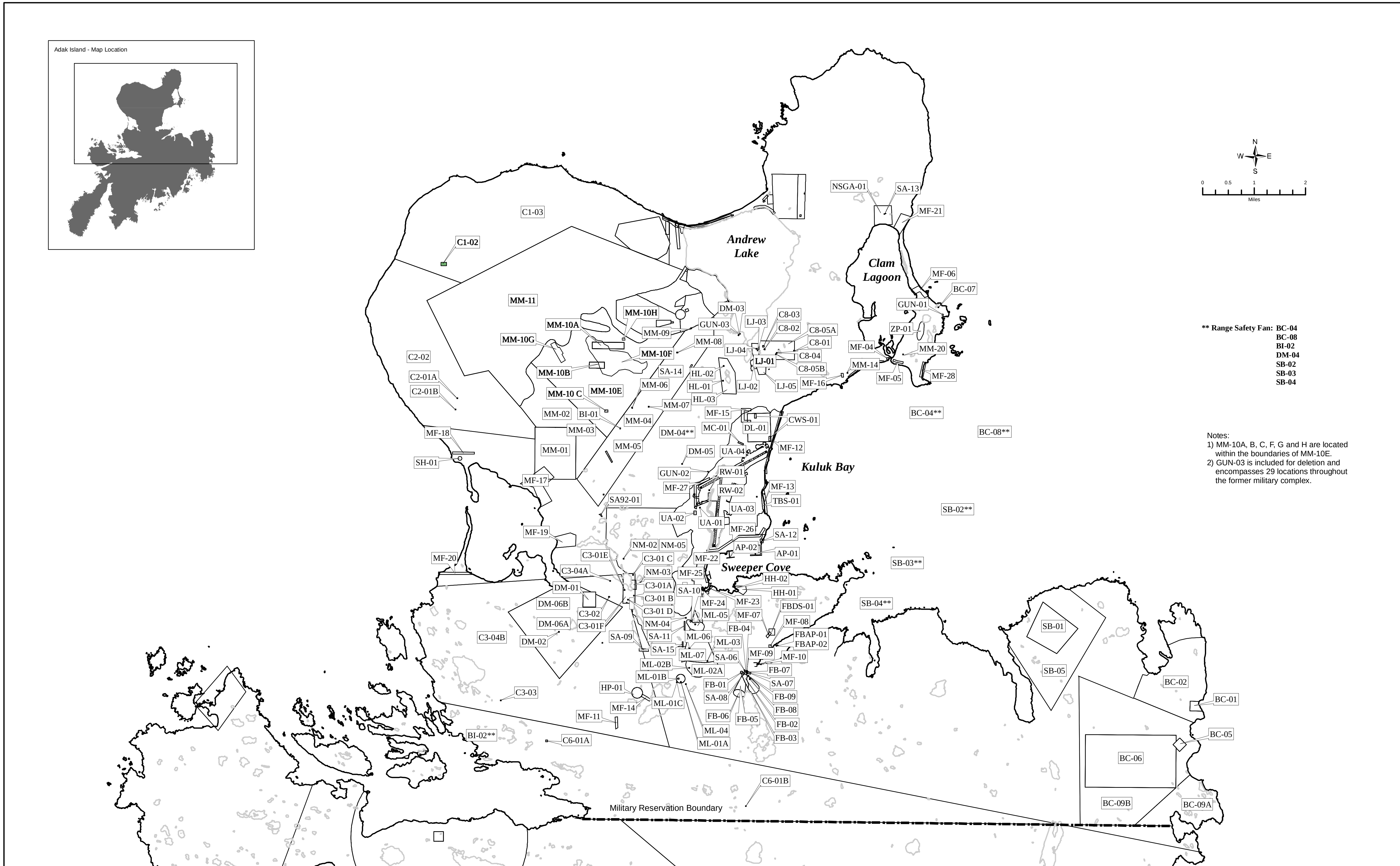
(d) Concurrence letter on No Further Action Status received from Alaska DEC.

(e) Clearance activities performed in step-outs at MM-10F and MM-10G during the 2010 field season. No clearance activities were performed at LJ-01 and MM-10H in 2010.

U.S.NAVY

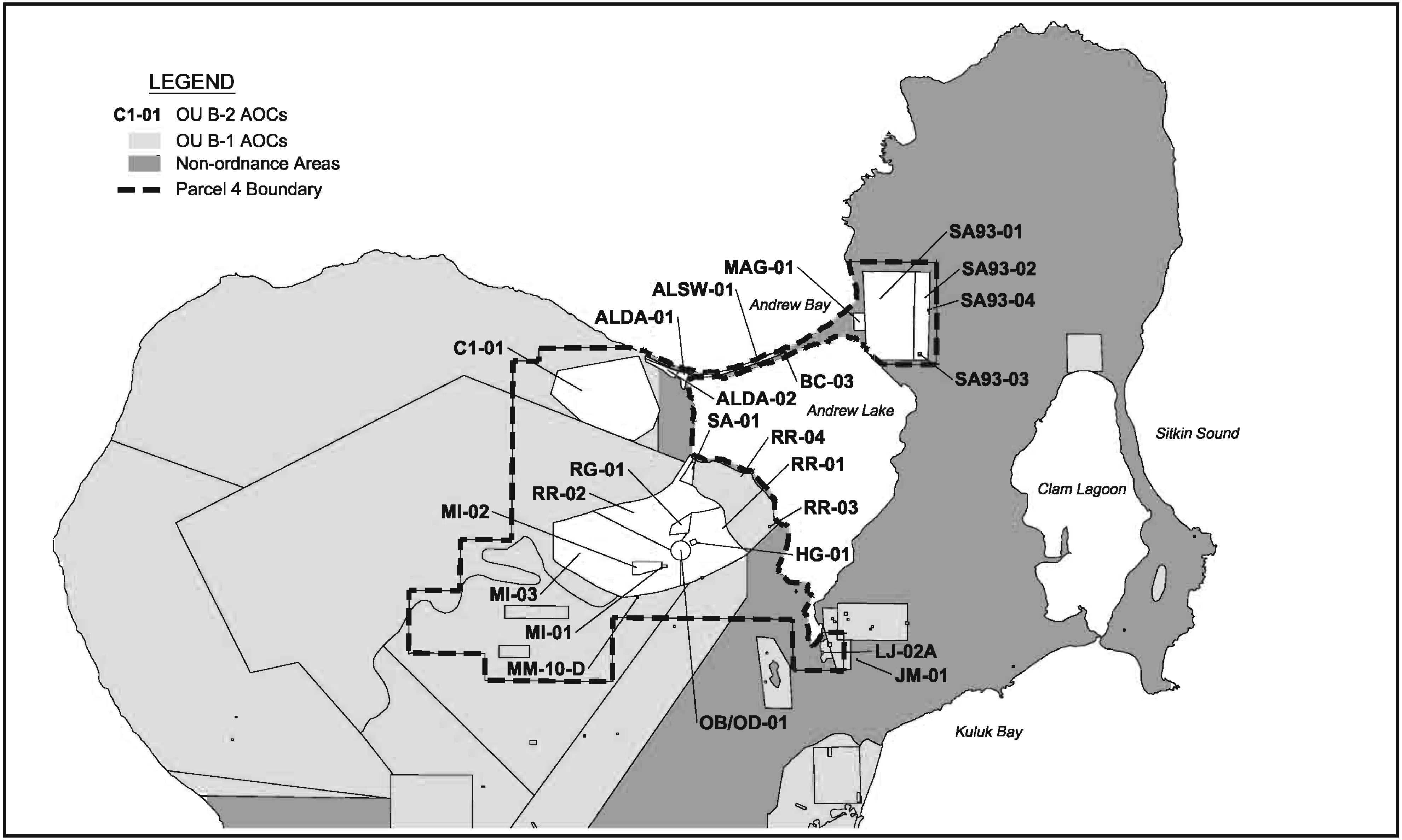
Figure 3-1
Summary of OU B-1 Site Process at Former Adak Naval Complex

Delivery Order 0019
Adak Island, AK
THIRD FIVE-YEAR REVIEW



U.S. NAVY	Delivery Order 0019 Adak Island, AK THIRD FIVE-YEAR REVIEW	**Figure 3-2** **Operable Unit B-1 Sites**

February 25, 2011 \\Seagis\gis\ADAK\IDIQ\Sub-Tasks\DO 19\3rd 5 Year Review\Figure 3-2 OUB-1 Sites.mxd



U.S. NAVY

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Figure 3-3
Operable Unit B-2 RI/FS Sites

Delivery Order 0019
Adak Island, AK
THIRD FIVE-YEAR REVIEW

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Table 3-1
Results of Preliminary Assessment for OU B-1 Sites

Candidate Site Name	Site Identifier/Name	Results of Preliminary Assessment[f]		
		NOFA	RI/ Inspect. Comp.	FS Comp.
Bay of Islands	BI-01[a]		√	
Bay of Islands Impact Area	BI-02	√		
Blind Cove/Campers Cove Impact Area	BC-01, BC-05, BC-06, BC-07, BC-08, BC-09A		√	
	BC-02, BC-04, BC-09B	√		
Chemical Warfare Materials Warehouses	CWS-01	√		
Combat Range #1	C1-02[a]		√	
	C1-03[a]	√		
Combat Range #2	C2-01A[a], C2-01B[a]		√	
	C2-02[a]	√		
Combat Range #3	C3-01 (C3-01A, C3-01B, C3-01C, C3-01D, C3-01E), C3-04 (C3-04A)	See Note[b]		
	C3-01 (C3-01F), C3-02, C3-03, C3-04 (C3-04B)		√	
Combat Range #6	C6-01 (C6-01A)	See Note[b]		
	C6-01B		√	
Combat Range #8	C8-01, C8-02, C8-03, C8-04, C8-05 (C8-05B)		√	
	C8-05 (C8-05A)	See Note[b]		
Davis Lake Ordnance Warehouses	DL-01	√		
Finger Bay Ammunition Pier	FBAP-01	√		
	FBAP-02		√	
Finger Bay Dynamite Storage	FBDS-01	√		
Finger Bay Impact Area	FB-01, FB-02, FB-04, FB-05		√	
	FB-03[c], FB-06, FB-07, FB-08, FB-09		√	
Gun Emplacements	GUN-01, GUN-02, GUN-03		√	
Gun Emplacement	Shagak Bay (SH-01)			√
Hammer Head Cover Impact Area	HH-01, HH-02	√		
Haven Lake Ordnance Area	HL-01, HL-02		√	
	HL-03	√		
Lake DeMarie Impact Area	DM-01, DM-02, DM-03, DM-04, DM-05, DM-06B		√	
	DM-06 (DM-06A)	See Note[b]		
Lake Jean Ammunition Complex	LJ-01, LJ-02, LJ-03, LJ-04		√	
	LJ-05	√		
MAUW Complex	MC-01	√		

Table 3-1 (Continued)
Results of Preliminary Assessment for OU B-1 Sites

		Results of Preliminary Assessment[f]		
Candidate Site Name	**Site Identifier/Name**	**NOFA**	**RI/ Inspect. Comp.**	**FS Comp.**
Minefields	Candlestick East (MF-04), Candlestick West (MF-05), Clam Lagoon Spit (MF-06), Finger Bay North Road (MF-07), Finger Bay NW (MF-08), Finger Bay SE (MF-09), Finger Bay SW (MF-10), Husky Pass (MF-11), Kuluk Bay (MF-12), Kuluk Bay South (MF-13), Lake Bonnie Rose (MF-14), NAVFAC (MF-15), Palisades (MF-16), Shagak Bay NE (MF-17), Shagak Bay NW (MF-18), Shagak Bay SE (MF-19), Shagak Bay SW (MF-20), Sweeper Cove North (MF-22), Sweeper Cove NW (MF-23), Sweeper Cove South (MF-26), Sweeper Cove SW (MF-25), Sweeper Cove West (MF-24), Yakutat (MF-27), Zeto Point (MF-28)	√		
	SWMU 2 Clam Lagoon (MF-21)			√
Mount Moffett	MM-01[a], MM-02[a], MM-03[a], MM-04[a] (encompasses MM-22[a] and MM-23[a,d]), MM-05[a], MM-06[a], MM-07[a], MM-08[a], MM-09[a], MM-10A[a] (includes two chemical sampling targets), MM-10B[a], MM-10C[a], MM-10E[a], MM-11[a], MM-14, MM-20		√	
	MM-10F, MM-10G, MM-10H	See Note[e]		
Husky Pass	a.k.a., Husky Pass Training (HP-01)			√
Mitt Lake Impact Area	ML-01 (ML-01A, ML-01B), ML-02 (ML-02A)	See Note[b]		
	ML-01 (ML-01C), ML-02 (ML-02B), ML-03, ML-04, ML-05		√	
	ML-06, ML-07	√		
NAF Adak/Lake DeMarie Ammunition Complex	NM-02, NM-03, NM-04		√	
	NM-05	√		
NSGA Magazine Complex	NSGA-01	√		
Scabbard Bay Impact Area	SB-01, SB-02, SB-03, SB-04, SB-05		√	
Small Arms Ranges	Finger Bay Pistol Range (SA-06), Finger Bay Rifle Range (SA-07), Finger Bay Submachine Gun Range (SA-08), Lake DeMarie Rifle Range (SA-09), Mitt Lake Sportsman's Pistol Range (SA-10), Mitt Lake Sportsman's Rifle Range	√		

Table 3-1 (Continued)
Results of Preliminary Assessment for OU B-1 Sites

Candidate Site Name	Site Identifier/Name	Results of Preliminary Assessment[f]		
		NOFA	RI/ Inspect. Comp.	FS Comp.
Small Arms Ranges (Cont.)	(SA-11), NSGA Rifle Range (SA-13), NAF Trap and Skeet Range (SA-12), Nurses Creek Rifle Range (SA-14), Radar Hill Rifle Range (SA-15)			
Urban Area	UA-01, UA-02		√	
	UA-03, UA-04	√		
WWII Ammunition Pier (Sweeper Cove)	AP-01	√		
	AP-02		√	
WWII (Near Runways)	RW-01		√	
	RW-02	√		
WWII Temp Bomb Storage (Kuluk Beach)	TBS-01	√		
Finn Field Bomb Burn Pile	SA92-01	√		
Zeto Point Impact Area	ZP-01[a]		√	

[a]Sites that were transferred to OU B-1 from OU B-2 include C1-02, C1-03, C2-01A, C2-01B, C2-02, BI-01, MM-01, MM-02, MM-03, MM-04 (encompasses MM-22 and MM-23), MM-05, MM-06, MM-07, MM-08, MM-09, MM-10A (includes two chemical sampling targets), MM-10B, MM-10C, MM-10E, MM-11, and ZP-01.
[b]Twelve sites that did not undergo preliminary assessment, but were evaluated in the RI include C3-01 (C3-01A, C3-01B, C3-01C, C3-01D, C3-01E); C3-04 (C3-04A); C6-01 (C6-01A); C8-05 (C8-05A); DM-06 (DM-06A); ML-01 (ML-01A, ML-01B); and ML-02 (ML-02A).
[c]FB-03 was transferred from NOFA to Final Characterization, based on the discovery of additional archival information following completion of the Proposed Plan.
[d]MM-23 did not undergo preliminary assessment.
[e]During the 2004 field season, the Navy established two new sites (MM-10F and MM-10G) within MM-10E. In addition, a new site (MM-10H) was established adjacent to the eastern border of MM-10E during a site certification meeting on December 8, 2004.
[f]Many of the sites identified for further investigation in the preliminary assessment were subsequently investigated and given a NOFA designation in the OU B-1 Record of Decision.

Notes:
FS Comp. - feasibility study has been completed
MAUW - modified advance underwater weapons
NAF - Naval Air Facility
NSGA - Naval Security Group Activity
NOFA - no further action
OU - operable unit
RI/Inspect. Comp. - a remedial investigation and/or site inspection completed
WWII - World War II

Table 3-2
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
ALDA-01	Andrew Lake Disposal Area – Landfill Area	ALDA-01 is a large-scale burial area, with possible wash-up of DMM from the munitions dump located offshore of the Andrew Lake seawall. This is the same munitions dump discussed in the ALSW-01 site description. ALDA-01 is located at the northwest corner of Andrew Lake and covers 6.7 acres. The site boundary is dog-legged and is wider at the north end of the site near Andrew Bay. Most of this site lies at elevations ranging from about 6.1 to 12.2 meters (20 to 40 feet) asl; however, a cliff on the west side of this site rises to heights of more than 200 feet asl. There is a distinct elevation break running across the site from northwest to southeast that separates the low-lying portion of the site into higher and lower elevation areas. The elevation difference of this feature is about 8 feet. The lower elevation area is a depositional environment from Andrew Bay, with this portion of the site experiencing possible wash-up of DMM from the munitions dump located offshore of the Andrew Lake seawall. This site is bordered by ALDA-02 to the west, Andrew Lake to the east, ALSW-01 to the northeast, and a thin strip of ALSW-01 to the north. Parcel 4 areas outside of OU B-2 border this site to the southwest. There is direct access to this site via the main access road running along the western shore of Andrew Lake. This road is gated with a locking steel gate near the south end of the lake to deter general access. The terrain is generally flat, except for steep slopes along the western edge. A line of craters trends northwest to southeast across the site. Vegetation is predominantly grass ranging in height from 12 to 18 inches, which is sparser toward the beach area, but still thick enough to hide the underlying cobbled surface. The geology of the site is characterized by shallow bedrock with a thin layer of soil. The soil is dominated by cobbles and boulders. There should be no groundwater because of the shallow bedrock.
ALDA-02[b]	Andrew Lake Disposal Area – Beach Crater Area	ALDA-02 is a potential aerial bombing range based on review of aerial photography showing craters in the site. However, no targets were present in the photographs. The craters form a long straight line that is atypical of an aerial bombing range with a target. ALDA-02 is located adjacent to the beaches of Andrew Bay and northwest of Andrew Lake in the northwestern portion of OU B-2. The site covers 9.5 acres. The area is roughly rectangular, with the long sides of the rectangle running parallel to the Andrew Bay shoreline. Elevations in ALDA-02 range from about 6.1 to 61 meters (20 to 220 feet) asl, with the vast majority of the elevation gain in the form of a cliff along the southern edge of the site. This site is bordered by ALDA-01 to the east and by C1-01 to the southwest. There is indirect access to this site via overland walk from the main access road running along the western shore of Andrew Lake to the east of this site. This road is gated with a locking steel gate near the south end of the lake to deter general access. The terrain is rolling and irregular, and transitions over a strip approximately 50 meters wide from a cobble beach in the north to a rocky cliff in the south. Vegetation is tall grass, which is thick at most locations. The thick vegetation impedes access and hides holes and hummocks in the uneven terrain. An

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
ALDA-02[b] (Cont.)	Andrew Lake Disposal Area – Beach Crater Area	ephemeral drainage channel from C1-01 cuts across ALDA-02, discharging over a cliff to a rocky shelf beside Andrew Bay. The geology of the site is characterized predominantly by bedrock with a very thin layer of soil. There should be limited groundwater because of the shallow bedrock.
ALSW-01[c]	SWMU 8, Andrew Lake Seawall	ALSW-01 is a wash-up area for disposal at sea and potential disposal area (burial). ALSW-01 consists of the western portion of the seawall located along the north shoreline of Andrew Lake and covers 10 acres. The Andrew Lake seawall is narrow and elongated, similar to a dike with a narrow flat top and steep sides. The seawall separates the freshwater lake from Andrew Bay to the north, which is an embayment of the Bering Sea. A munitions dump is located offshore of the Andrew Lake seawall. This is the same munitions dump discussed in the ALDA-01 site description. The location and amount of munitions in the offshore dump area are unknown. Elevations in the upland portion of the site range from about 3 to 9.1 meters (10 to 30 feet) asl. This site is bordered by ALDA-01 to the west, Andrew Lake to the south, the Andrew Bay beach area to the north, and non-OU B-2 areas to the east. The Navy periodically performs sweeps on the Andrew Bay beach, within the tidal zone, to remove MEC items that have washed up from offshore dump sites. The area below the mean higher high water mark on the Andrew Bay side of the seawall is owned by the Alaska Department of Natural Resources. There is direct access to this site via an unimproved road originating on the east side of Andrew Lake near the Recreation Center. There is a locked steel gate and rock barrier on this roadway just north of the Recreation Center to deter public access. There is also indirect access via a walk from main access road running along the western shore of Andrew Lake. This road is gated (locked steel gate) near the south end of the lake to deter general access. The terrain transitions from generally flat atop the seawall to very steep along the sides (north and south). Vegetation consists of short, relatively sparse grass atop the wall and tussocks of taller grass along the sides where adequate soil is present. A natural spillway at the northwest corner of Andrew Lake allows some flow of freshwater into Andrew Bay. At times, the spillway is obstructed and discharge is limited to water flowing through the cobble substrate of the seawall to Andrew Bay. The seawall is a man-made feature composed of boulders, cobbles, gravel, large metal debris, and wood.
BC-03[b]	Blind Cove/ Campers Cove – Firing Point #1	BC-03 is a firing point for 155-mm projectiles. This site is located atop the seawall, near the center of the dike-like feature, and covers 0.02 acre of land. This site is a small, roughly square site that is surrounded on all sides by land that is not part of OU B-2. The elevation of BC-03 is about 9.1 meters (30 feet) asl. A small portion of this site was inaccessible for investigation because of the presence of Quonset hut debris. There is direct access to this site via an unimproved road originating on the east side of Andrew Lake near the Recreation Center. There is a locked steel gate and rock barrier on this roadway just north of the Recreation Center to deter public access. The terrain is relatively flat. Vegetation is relatively sparse because of the

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
BC-03[b] (Cont.)	Blind Cove/ Campers Cove – Firing Point #1	unsuitability of the soils to sustain vegetation, and consists of grasses 8 to 18 inches tall. The site geology is similar to ALSW-01, which is a man-made feature composed of boulders, cobbles, gravel, large metal debris, and wood.
C1-01	Combat Range #1 – Mortar Target Area	C1-01 is a target/impact area that covers 387 acres. C1-01 is located north of the former Range Complex at Andrew Lake. It is roughly oval in shape. C1-01 is situated on a sloping plateau above and west of ALDA-01 on the flanks of Mount Moffett. Elevations range from about 152 to 396 meters (500 to 1,300 feet) asl. It is bordered on all sides by C1-03. ALDA-01and ALDA-02 are located northeast of this site, and Andrew Lake lies to the east. There is indirect access to this site via a moderate hike from the Andrew Lake range area. Access to the range area is via a locked steel gate near the south end of Andrew Lake. The terrain is moderately steep and rocky in most areas, and the site is inaccessible along the northern boundary. Vegetation consists primarily of sparse short grasses, lichens, and small alpine flowers ranging in height from 1 to 4 inches. An ephemeral drainage channel cuts across C1-01, discharging north over a steep cliff to a rocky shelf beside Andrew Bay. The geology of the site is characterized by shallow soils with rock outcrops. Groundwater is anticipated to be deep due to the elevation of the site (500 to 1,300 feet) relative to nearby permanent surface water features at Andrew Bay and Andrew Lake.
HG-01	Andrew Lake Hand Grenade Range	HG-01 is a target/impact area. It is a small, square area of about 2 acres located within the former Range Complex at Andrew Lake. Remnants of a berm with incorporated throwing pits are located near the east side of the range. The pits are reinforced with heavy timbers and, at one time, offered protection from exploding grenades during training exercises. The elevation in this site is approximately 33.5 meters (110 feet) asl. This site is located wholly within RR-01. There is direct access to this site via the gravel range entry road, which branches from the main access road along the western side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain is relatively flat. There are steep slopes on the berm protecting the throwing pits. Vegetation consists of tall tundra grasses up to 18 inches tall interspersed with wildflowers. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. Groundwater is anticipated to be shallow, and there may be intermittent standing water at certain times of the year.
JM-01[b]	Candidate Chemical Weapons Disposal Site	This site was thought to be located in the Lake Jean area, just west of Combat Range 8. Thirteen sites were evaluated, and none was judged to be the actual location. The site was described by a WWII veteran (“J.M.”) as a small, rectangular area enclosed by a barbed wire fence that was used for a one-time chemical weapons disposal via earth-tamped detonation. The general area where the site was thought to be located includes diverse terrain. The center

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
JM-01 (Cont.)	Candidate Chemical Weapons Disposal Site	of the area is a relatively flat, meadow-like area cut by meandering streams that form deep, winding ravines. On three sides (north, east, and south) of this area, the terrain rises in a series of ridges and ravines. To the west, the terrain falls steeply toward Andrew Lake. Vegetation in the general area consists predominantly of tall tundra grass. There are some areas near the hilltops where heaths and mosses are plentiful.
LJ-02A[b]	Lake Jean Disposal Area	LJ-02A is located just south of Lake Jean within the Lake Jean Ammunition Complex and covers approximately 0.4 acre. It is contained wholly within LJ-02, an OU B-1 site. This site was originally part of LJ-02 until potential evidence of buried items was found during the search for JM-01 in this area. As a result, a new OU B-2 site was created in 2002. There is direct access to this site via a rutted dirt road around the perimeter of LJ-02. The terrain is generally undulating and hummocky. Vegetation consists of lowland tundra species ranging from 12 to 24 inches in height. Because the site is approximately 16 to 24 meters (60 to 80 feet) above the Lake Jean shoreline, groundwater is expected to be relatively deep.
MAG-01[b]	WWII Magazine – Andrew Lake Seawall	MAG-01 is a storage magazine that covers 12.3 acres. It is located at the eastern end of the Andrew Lake seawall along the north-central shoreline of Adak Island. The area is a small rectangle that is located at the base of a cliff that rises to meet SA93-01 to the east. To the north, west, and south, the site is bordered by property lying outside of OU B-2. The elevation ranges from 6 to 12 meters (20 to 40 feet) asl in the accessible portion of the site. It rises rapidly to elevations above 79.2 meters (260 feet) asl in the eastern portion of the site. There is direct access via unimproved road originating on the east side of Andrew Lake near the Recreation Center. There is a locked steel gate and rock barrier on this roadway just north of the Recreation Center to deter public access. The terrain is relatively flat in the western portion of the site and very steep (cliff-like) in the eastern portion. The vegetation consists of moderately thick beach grass ranging in height from 8 to 12 inches in the lower areas, with little vegetation in the steeper areas. A small lake or pond, which may be man-made, is located in the central portion. Because of the site's proximity to Andrew Lake and Andrew Bay and its similar elevation, groundwater is expected to be shallow.
MF-01	Andrew Lake East Minefield	MF-01 is located at the eastern end of the Andrew Lake Seawall, which is located along the north shoreline of Andrew Lake. The site has not been intrusively investigated for mine-related debris. However, a historical pistol/ rifle range and magazine nearby were investigated during the preliminary source evaluation for chemical contamination. Based upon the data available and the intense utilization of this area, it is not realistic to conclude that this minefield was ever installed. Therefore, the site met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.]) MF-02 is

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
MF-02	Andrew Lake Seawall Minefield	located along the entire length of the Andrew Bay Seawall along the north shoreline of Andrew Lake. The seawall is narrow, and elongated, and similar to a dike with a narrow flat top and steep sides. The seawall is a man-made feature composed of boulders, cobbles, gravel, large metal debris, and wood. The site has not been intrusively investigated for mine-related debris. However, the site was visited during the preliminary source evaluation, and periodic sweeps have been conducted along the seawall to remove ordnance washed up by frequent violent storms. Based on the field data and the extensive historical use of this area for daily/routine activities, it is not realistic to conclude that this minefield was ever installed. Therefore, this site met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
MF-03	Andrew Lake West Minefield	MF-03 is located northwest of Andrew Lake in the vicinity of ALDA-01 and ALDA-02. The site has not been intrusively investigated for mine-related debris. However, the site was investigated during the 1999 field season in areas that overlap ALDA-01. No mine or related waste was found. Therefore, the site met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
MI-01	Andrew Lake Mortar Impact Area – Rocket Disposal Area	MI-01 is a target/impact area that covers 0.7 acre. It is located along the southern side of the mortar impact valley in the Range Complex at Andrew Lake (west of Andrew Lake). It is bordered by MI-02 immediately to the west and OB/OD-01 to the east, and is otherwise surrounded by MI-03. Elevation in the site ranges from 48 to 55 meters (160 to 180 feet) asl. There is indirect access to this site via the gravel range entry road that terminates at OB/OD-01, which branches from the main access road along the western side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain at the site slopes gently to the north toward the floor of the mortar impact valley. Dominant vegetation is a mixture of grasses and lowland tundra species ranging in height from 12 to 24 inches. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. Based on the elevation and proximity to stream channels, groundwater is anticipated to be shallow in lowland areas.
MI-02	Andrew Lake Mortar Impact Area – 40-mm Projectile Impact Area	MI-02 is a target/impact area that covers 19 acres. It is located along the southern side of the mortar impact valley in the Range Complex at Andrew Lake (west of Andrew Lake). It is bordered by MI-01 to the east and is otherwise surrounded by MI-03. The elevation in this site ranges from about 49 to 104 meters (160 to 340 feet) asl. There is indirect access to this site via a

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
MI-02 (Cont.)	Andrew Lake Mortar Impact Area – 40-mm Projectile Impact Area	gravel range entry road that terminates at OB/OD-01, which branches from the main access road along the western side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain is relatively flat, rising moderately to the west toward Mount Moffett. The area is somewhat flatter in the eastern portion closer to Andrew Lake. The area is bordered on the south by steep terrain that becomes inaccessible near the top of the ridge delineating the southern boundary of MI-02 and the Range Complex at Andrew Lake. Steep terrain also forms the northern boundary of this site to the west. Vegetation is grassy with lowland tundra species ranging in height from 12 to 24 inches. Intermittent standing water in the eastern portion of the site (i.e., lowland area) may possibly be present due to shallow groundwater. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. Groundwater in upper portions of this site is anticipated to be relatively deep compared with shallow depths expected along the valley floor.
MI-03	Andrew Lake Mortar Impact Area – Mortar Impact Area	MI-03 is a target/impact area that covers 425 acres. It consists of a steep valley draining west to east from the flanks of Mount Moffett toward Andrew Lake. MI-03 is bordered by OU B-1 (MM-11 and various components of MM-10) to the west, south, and north. Three OU B-2 sites border MI-03 to the east: OB/OD-01, RR-01, and RR-02. MI-01and MI-02 are located wholly within this site. The elevation in MI-03 ranges from about 40.1 meters (130 feet) asl at the eastern edge to about 280 meters (920 feet) asl along the western edge on the flanks of Mount Moffett. There is indirect access to this site via a gravel range entry road that terminates at OB/OD-01, which branches from the main access road along the western side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain ranges from relatively low and flat in the eastern portion nearest the OB/OD area to steep and inaccessible at the western end and along the southern border. There is a steep ridgeline near the northern side of the site with a relatively flat top. The top of this ridge is shared with RR-02. Vegetation is grassy in the east with lowland tundra species ranging in height from 12 to 24 inches. The vegetation transitions to upland species (mixed grasses, heaths, and mosses) of shorter stature in the west. Runoff channels or streams within the site run easterly toward Moffett Creek, which is partially located within this site. Groundwater is anticipated to be shallow in the lowland areas, which provides the potential for groundwater seeps. Small ponds or lakes are present at two locations. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. Groundwater in upper portions of the site is anticipated to be relatively deep compared with shallow depths expected along the valley floor.

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
MM-10D[b]	Mt. Moffett Impact Area – Central Impact Area Lone 81-mm Mortar	MM-10D is a target/impact area that covers 0.2 acre. It is a small, square site on the eastern flanks of Mount Moffett, where a lone, partial 81-mm mortar (frag) was found. MM-10D is located adjacent to the southern boundary of MI-03 directly south of the western edge of MI-02. The elevation of this site is approximately 213 meters (700 feet) asl. Access to this site is difficult given the steep embankment to the north, which separates the site from the mortar impact valley in the Range Complex at Andrew Lake. The terrain slopes gently to the east; however, just north of the site the terrain falls very steeply into the Range Complex at Andrew Lake. Vegetation is sparse and consists of short tundra grasses, lichens, mosses, and alpine flowers. Groundwater is anticipated to be quite deep based on the terrain and elevation.
MM-12	Mt. Moffett Impact Area – Range Safety Fan #1	MM-12 is a roughly triangular area that includes the range safety fan for the historical southwestern 155-mm impact area on Mount Moffett. It passes over Andrew Lake and then across the Andrew Lake Range Complex and the lower flanks of Mount Moffett to the impact area. The terrain in this area varies a great deal and includes relatively flat areas and areas where rolling hills and ravines dominate. Near the impact area, the terrain becomes quite steep and inaccessible. Many portions of the range safety fan area were investigated during the 1999 field season as part of the investigation in the Andrew Lake Range Complex areas and the Mt. Moffett Impact Area over which the fan passes. No ordnance was found in any of the fan areas examined. Therefore, MM-12 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
MM-13	Mt. Moffett Impact Area – Range Safety Fan #2	MM-13 is a roughly triangular area that includes the range safety fan for Firing Point #2 for the Mt. Moffett Impact Area. It passes over open country between Firing Point #2 at Andrew Lake and the impact area. The terrain in this area varies a great deal and includes relatively flat areas near the firing point and very steep, inaccessible rocky areas toward the impact area at the western end of the fan. A portion of the range safety fan area was investigated during the 1999 field season as part of the investigation in the Andrew Lake Range Complex west of Andrew Lake and the Mt. Moffett Impact Area over which the fan passes. No ordnance was found in the fan area examined. Therefore, MM-13 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
MM-15	Mt. Moffett Impact Area – Range Safety Fan #3	MM-15 is a roughly triangular area that includes the range safety fan for Firing Point #3 for the Mt. Moffett Impact Area. It passes over open country between Firing Point #3 on the shoreline of Kuluk Bay and the 90-mm Impact Area at the crest of Mount Moffett. The terrain in this area varies a great deal

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
MM-15 (Cont.)	Mt. Moffett Impact Area – Range Safety Fan #3	and includes relatively flat areas near the firing point and very steep, inaccessible rocky areas toward the impact area at the western end of the fan. About half of the range fan area overlaps Range Safety Fan #2. A portion of the range safety fan area was investigated during the 1999 field season as part of the investigation in the Lake Jean Ammunition Complex, the Haven Lake Ordnance Area, and the Mt. Moffett Impact Area over which the fan passes. No ordnance was found in the fan area examined. Therefore, MM-15 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
MM-16	Mt. Moffett Impact Area – Range Safety Fan #4	MM-16 is a roughly triangular area that includes the range safety fan for Firing Point #4 for the Mt. Moffett Impact Area. It passes over open country between Firing Point #4 near downtown Adak and the 90-mm Impact Area at the crest of Mount Moffett. The terrain in this area varies a great deal and includes relatively flat areas near the firing point and very steep, inaccessible rocky areas toward the impact area at the western end of the fan. It should be noted that about half of the range fan area overlaps Range Safety Fans #2 and #3. A portion of the range safety fan area was investigated during the 1999 field season as part of the investigation in the Mt. Moffett Impact Area over which the fan passes. No ordnance was found in the fan area examined. Therefore, MM-16 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to Footnote 1 in Section 3.2.])
MM-17	Mt. Moffett Impact Area – Firing Point #5	MM-17 is situated in the eastern central portion of downtown Adak near the shoreline of Kuluk Bay. The firing point was used during training exercises to shoot at the Mt. Moffett Impact Area and at Scabbard Bay. This area is currently the location of abandoned housing units. This rectangular area surrounds the former location of a 90-mm gun battery and roughly represents the area where unfired ordnance may have been stored, dropped, discarded, or disposed of during World War II-era military operations. The terrain in this area is characterized by rolling hills and ravines. This firing point was not investigated during the 1999 field effort. However, it was part of the investigation area in 1997 when the Priority I and II Areas of downtown Adak were evaluated. At that time, 100 percent of the accessible Priority I and II Areas was successfully cleared and geophysically evaluated, including this firing point. There has also been a great deal of construction activity in this area, including the installation of utilities and the construction of streets and housing. No ordnance has been found at this site. Furthermore, it is highly unlikely that any ordnance that may have been left at this site remains undiscovered. Therefore, MM-17 met the requirements for NOFA in the

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
MM-17 (Cont.)	Mt. Moffett Impact Area – Firing Point #5	preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is “Limited Action.” [Refer to footnote 1 in Section 3.2.])
MM-18	Mt. Moffett Impact Area – Range Safety Fan #5	MM-18 is a roughly triangular area that includes the range safety fan for Firing Point #5 for the Mt. Moffett Impact Area. It passes over both open areas and developed areas of Adak between Firing Point #5 in downtown and the 90-mm Impact Area at the crest of Mount Moffett. The terrain in this area varies a great deal and includes relatively flat areas near the firing point and very steep, inaccessible rocky areas toward the impact area at the western end of the fan. It should be noted that about two-thirds of the range fan area overlaps Range Safety Fans #2, #3, and #4. A large portion of the range safety fan area was investigated during the 1997 and 1998 field seasons as part of the investigation in the Priority I, II, and III Areas over which the fan passes. No ordnance was found in the fan area examined. Therefore, MM-18 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is “Limited Action.” [Refer to footnote 1 in Section 3.2.])
MM-19	Mt. Moffett Impact Area – Range Safety Fan #6	MM-19 is a roughly triangular area that includes the range safety fan for Firing Point #6 for the Mt. Moffett Impact Area. It passes over open country between NAF Adak/Lake DeMarie Ammunition Complex and the impact area. The terrain in this area varies a great deal and includes relatively flat areas near the firing point and very steep, inaccessible rocky areas toward the impact area at the western end of the fan. It should be noted that about half of the range fan area overlaps Range Safety Fans #2, #3, #4, and #5. A portion of the range safety fan area was investigated during the 1999 field season as part of the investigation in the NAF Adak/Lake DeMarie Ammunition Complex and the Mt. Moffett Impact Area over which the fan passes. No ordnance was found in the fan area examined. Therefore, MM-19 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is “Limited Action.” [Refer to footnote 1 in Section 3.2.])
MM-21	Mt. Moffett Impact Area – Range Safety Fan #7	MM-21 is a roughly triangular area that includes the range safety fan for Firing Point #7 for the Mt. Moffett Impact Area. It passes over open country between Clam Lagoon and the 155-mm impact area on Mount Moffett. The terrain in this area varies a great deal and includes relatively flat areas near the firing point and very steep, inaccessible rocky areas toward the impact area at the western end of the fan. A portion of the range fan also passes over Clam Lagoon. A large portion of the range safety fan area was investigated during the 1999 field season as part of the investigation in Combat Range #8, the Lake Jean Ammunition Complex, and the Mt. Moffett Impact Area over which the fan passes. No ordnance was found in any of the fan areas examined.

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
MM-21 (Cont.)	Mt. Moffett Impact Area – Range Safety Fan #7	Therefore, MM-21 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
OB/OD-01	Andrew Lake Open Burn/Open Detonation Disposal Range	OB/OD-01 is a circular area with a radius of 182 meters (600 feet) that covers 18 acres. The boundary encompasses visible historical demolition craters and an ample buffer zone around the craters to account for kick-outs during disposal operations. It is bordered by RR- 02 to the northwest; RR-01 to the northeast, east, and southeast; and MI-03 to the south and west. The elevation in this site ranges from about 33 to 40 meters (110 to 130 feet) asl. There is direct access to this site via the gravel range entry road, which branches from the main access road along the west side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain is relatively flat, but hummocky in some locations and marshy in others. There are several craters in this area resulting from previous disposal events. The site is generally covered in knee-high, grassy tundra; however, there are relatively barren areas surrounding some of the disposal craters. Moffett Creek runs from west to northeast through the northwestern portion of the site. In addition, standing water has been observed in the disposal craters. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. The groundwater is shallow, as evidenced by standing water in the disposal craters. Groundwater is in hydraulic communication with the creek (i.e., there is interconnection between the creek and the groundwater aquifer in this area).
RG-01[b]	Andrew Lake 40-mm Rifle Grenade Range	RG-01 is a target/impact area that covers 16 acres. This site is located on a hillside northwest of the HG-01. The area is trapezoidal in shape, narrowing from the target line near the base of a hill to the crown of the hill. RG-01 is bordered by RR-01 to the east and southeast, and is otherwise surrounded by RR-02. The elevation in this site ranges from about 34 meters (110 feet) asl near the target line to about 125 meters (410 feet) asl at the top of the hill behind the targets. A non-time critical removal action was conducted at RG-01 in 2006 and 2008. There is direct access to this site via the gravel road running from the range entry road up to the firing line area. This road connects ultimately to the main access road for the general range area on the west side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain is steep and largely inaccessible in the western portion of the site. Vegetation consists of tundra grass up to 18 inches tall with a very thick rootmat near the firing line. Steeper areas generally consist of shorter grasses interspersed with alpine flowers and some moss. Intermittent standing water in the southeastern portion of the site (i.e., lowland area) may possibly be present due to shallow groundwater.

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
RR-01	Andrew Lake Range Remainder – Hand Grenade/40-mm Area	RR-01 is a target/impact area that covers 182 acres. It is located in the southern central portion of the Range Complex at Andrew Lake. RR-01 is bordered by RR-02 to the north; OU B-1 to the south; RR-04 to the east; and OB/OD-01, RG-01, and MI-03 to the west. HG-01 is located wholly within this site. The elevation in this site ranges from about 15 to 152 meters (50 to 500 feet) asl. There is direct access to this site via the range entry road, which branches from the main access road along the west side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain is generally flat in northern portion, but can be uneven and marshy. The steep slopes to the south make the southern third of the site largely inaccessible. The vegetation is predominantly dense, lush tundra grass in lowland accessible portions. Moffett Creek runs from west to northeast through the northern portion of this site. Lowland areas bordering this creek are often saturated with pooled water at certain times of the year. Groundwater is in hydraulic communication with the creek. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. The groundwater is anticipated to be shallow in lowland areas.
RR-02[b]	Andrew Lake Range Remainder – Mortar Impact Area	RR-02 is a potential target/impact area based on the finding of material potentially presenting an explosive hazard in 1999. This site is located along the northern side of the valley containing the former Range Complex at Andrew Lake and covers 231 acres. RR-02 includes a valley running east and west that connects the flank of Mount Moffett with the lowlands on the western shore of Andrew Lake. This site shares a steep ridgeline and plateau area atop the ridge with MI-03 to the south. RR-02 is bordered by OU B-1 to the north; SA-01and RR-04 to the east; MI-03 to the west; and RG-01, RR-01, and OB/OD-01 to the south. Elevations in this site range from about 12 to 238 meters (40 to 780 feet) asl. There is direct access to this site via a small dirt road, which branches from the main access road along the west side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. The terrain rises from the flatlands near Andrew Lake to a narrow, steep valley bordered by steep hillsides (north, south, and west). An inaccessible ridge runs along the south side of this site, which has a relatively flat top. Vegetation is grassy with lowland tundra species ranging in height from 12 to 24 inches. There are also scattered areas containing mosses, heaths, and alpine flowers. Vegetation is sparser at higher elevations. An ephemeral drainage channel cuts across this site to SA-01 and ultimately to Andrew Lake. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. Groundwater is anticipated to be shallow in lowland areas in the eastern portion. Groundwater is expected to be deep at the higher elevations to the west.

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
RR-03[b]	Andrew Lake Range Remainder – Flare Site	RR-03 is range buffer zone that covers 0.2 acre. This site is a small, square site located near the southeastern boundary of the former Range Complex at Andrew Lake. It is wholly within RR-04 and was created to allow evaluation of a lone, abandoned, signal flare found in 1999. The elevation in this site is about 12 meters (40 feet) asl. There is indirect access to this site via the gravel road that branches from the main access road along the west side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. A locked cable barrier also deters access to the range entry road. The terrain is relatively flat. Vegetation consists of tall, lush grass ranging in height from 12 to 18 inches. Groundwater is anticipated to be relatively shallow based on this site's proximity to Andrew Lake.
RR-04[b]	Andrew Lake Range Remainder – Remainder	RR-04 is range buffer zone that covers 253 acres. It encompasses most of the lower valley at the former Range Complex at Andrew Lake. The site is bordered by a narrow strip of shoreline along Andrew Lake on the north and northeast; RR-01 to the southwest; SA-01 to the northwest; and RR-02 to the west; and undesignated portions of Parcel 4 to the south. RR-03 is located wholly within RR-04. The elevation in most of the site is 6 to 12 meters (20 to 40 feet) asl. A steep ridge on the south side of this site rises to just over 67 meters (220 feet) asl. There is direct access to this site via the gravel range entry road that runs through this site. This road connects ultimately to the main access road on the west side of Andrew Lake, which currently has a locked steel gate near the south end of the lake to deter public access. A locked cable barrier also deters access to the range entry road. The terrain is generally flat, except along the southern side of the former Range Complex at Andrew Lake, where a steep hillside forms the southern valley wall. Vegetation is grassy with lowland tundra species ranging in height from 12 to 24 inches. There are also scattered areas containing mosses, heaths, wetland species, and alpine flowers. Moffett Creek runs from southwest to northeast through the central portion of this site. The lowland areas bordering this creek are often saturated with pooled water or are subject to overland sheet flow at certain times of the year. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. Groundwater is anticipated to be relatively shallow based on this site's proximity to Andrew Lake. Groundwater is in hydraulic communication with the creek. RR-04 met the requirements for NOFA in the preliminary assessment. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.]) However, Alaska Department of Environmental Conservation requested that additional investigation work be performed at this site. This work was performed in 2008 as part of the remedial investigation.
SA-01[b]	Andrew Lake Machine Gun and Sub-Caliber Training Range	SA-01 is a small arms range that covers 10.2 acres. It is located at the northern edge of the former Range Complex at Andrew Lake (on the west side of Andrew Lake). SA-01 is bordered by SA-02 to the north, RR-04 to the east, and RR-02 to the west and south. Elevation in this site ranges from about 12

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
SA-01[b]	Andrew Lake Machine Gun and Sub-Caliber Training Range (continued)	to 49 meters (40 to 160 feet) asl. Direct access to this site is provided by the small arms range access road to the north, which branches from the main access road along the west side of Andrew Lake. This main road is gated (locked steel gate) near the south end of the lake to deter general access. The terrain is relatively flat in most areas, but slopes upward in the southwestern corner. Vegetation is primarily tall, lush grasses ranging in height from 6 to 18 inches. An ephemeral drainage channel cuts across the abutting RR-02 through this site to Andrew Lake. The valley floor is composed of a silty, gravelly, sand, alluvial/colluvial, and/or outwash material overlying andesitic basalt bedrock or consolidated ash tuff. Groundwater is anticipated to be relatively shallow based on this site's proximity to Andrew Lake.
SA-02	Andrew Lake Pistol Range	SA-02 is located along the northern hillside that defines the valley containing the range complex. The site was identified as a pistol range and .22 caliber antiaircraft and antitank weapons training area. This range is described as a 1,000-inch range, which indicates that it was scaled down to allow training using full-size weaponry firing small caliber munitions. A site inspection was performed on October 27, 1999. No live ordnance was located during the site visit. Therefore, SA-02 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
SA-03	Andrew Lake Seawall Pistol Range	SA-03 is located at the eastern end of the Andrew Lake seawall. The range consisted of two firing lines and one target line. The target line was at the eastern end of the range located at the base of a small hill. A site visit was conducted on March 14, 1997. The wooden walkways and the target posts are still visible. An investigation of the backstop located .45 caliber bullets down to a depth of 14 inches below ground surface. Bullet scarring was still evident behind the target posts. No live ordnance was located at the site. Therefore, SA-03 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
SA-04	Andrew Lake Seawall Rifle Range	SA-04 is located at the eastern end of the Andrew Lake seawall and is approximately 300 yards long. The range had a single firing line at the western end. There were three target lines at 100, 200, and 300 yards to the east of the firing line. The range had both fixed targets and raised targets. A site visit was conducted on March 14, 1997. The range area is still littered with range debris and the target lines are still visible. Small caliber rifle slugs were located in the subsurface soils at all three target lines. Bullet scarring at this range was minimal in comparison to other ranges located on Adak. No live ordnance was located during the visit. Therefore, SA-04 met the requirements for NOFA in the preliminary assessment and did not require

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
SA-04 (Cont.)	Andrew Lake Seawall Rifle Range	further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
SA-05	SWMU 9, Black Powder Sportsman's Club	The Black Powder Sportsman's Club, also known as SWMU 9, is located along the southwest shore of Andrew Lake. The site was used by the Black Powder Sportsman's Club for recreational target practice. Prior to its use as a firing range, the site was used as a disposal area for metal debris (1970s and 1980s). The area also may have been used for small arms training in the late 1970s. The site is 200 by 100 feet. A site visit performed in 1993 located steel drums perforated with bullet holes. No live ordnance or bullet slugs were noted during the visit. Therefore, SA-05 met the requirements for NOFA in the preliminary assessment and did not require further evaluation in the remedial investigation. (Note that for all OU B-2 sites, the current terminology for NOFA is "Limited Action." [Refer to footnote 1 in Section 3.2.])
SA93-01	Source Area #93 – Multiple Ordnance Impact Area	SA93-01 is a target/impact area that covers 263 acres. It is located to the northeast of Andrew Lake. Most of the site is on a plateau some 91 to 122 meters (300 to 400 feet) above the lake, but a small strip of this site along the southwestern corner abuts the shoreline of the lake. This site is bordered by SA93-02 to the east, areas lying outside Parcel 4 to the north and south, and Andrew Lake to the southwest. It is also bordered by MAG-01 to the west, but the two areas are not physically contiguous because of a steep cliff (i.e., MAG-01 is at the base of the cliff). Elevations in the central portion of this site range from about 67 to 98 meters (220 to 320 feet) asl. Along the western edge of this site, a steep ridge rises to just over 152 meters (500 feet) and then falls very rapidly (cliff) to elevations below 100 feet asl. To the north, a steep ridge rises to over 213 meters (700 feet) on the flanks of a small mountain peak. There is indirect access to this site via walking from the gravel road originating from the east side of Andrew Lake near the Recreation Center. The entire historical impact area in which this site resides is currently fenced (4-strand barbed wire), with posted signage to deter public access. On the west side of this site, a steep ridge forms a cliff above Andrew Lake. To the east of this ridge, the terrain falls gently toward a deep drainage ravine near the east side of this site. Vegetation is generally a mixture of grasses, sedges, mosses, and heaths ranging in height from 18 to 30 inches. A deep ravine at the eastern edge of the site carries runoff southward toward Andrew Lake. Also, there are areas of standing water or streams in the south-central portion of the site. Groundwater is expected to be deep, given the elevation of this site compared with Andrew Lake and Andrew Bay.
SA93-02[b]	Source Area #93 – Eastern Impact Area	SA93-02 is a potential storage area (or staging site) based on its proximity to roadway and covers 78 acres. This site is a long, narrow strip (rectangle) running along the eastern edge of SA93-01. It is bordered by areas lying outside of Parcel 4 to the north, south, and east. SA93-03 and SA93-04 are both located wholly within SA93-02. Elevations in this site range from about

Table 3-2 (Continued)
OU B-2 Sites

Site Designation[a]	Site Name	Site Description
SA93-02[b] (continued)	Source Area #93 – Eastern Impact Area	61 to 91 meters (200 to 300 feet) asl; however, a deep drainage ravine running through the center of this site drops to an elevation below 12 meters (40 feet) asl. There is direct access to this site via a gravel road originating from the east side of Andrew Lake near the Recreation Center. The entire historical impact area in which this site resides is currently fenced (4-strand barbed wire), with posted signage to deter public access. The terrain is generally rolling with the exception of the very steep ravine running through the southern two-thirds of this site, from the north-central area to the southwestern corner. This ravine impedes pedestrian ingress from the road on the eastern side. Vegetation is generally a mixture of grasses, sedges, mosses, and heaths ranging in height from 12 to 24 inches. Mitchell Creek traverses this site in the north-south direction, within the deep drainage ravine. Groundwater is anticipated to be deep based on this site’s elevation compared with Andrew Lake and Andrew Bay.
SA93-03	Source Area #93 – Firing Point	SA93-03 is a target/impact area that covers 0.6 acre. This small, rectangular site is located wholly within SA93-02 near the southern boundary of that site. This area was initially believed to be the principal firing point for 2.36-inch rockets found within SA93-01 (located across the ravine to the west). On the basis of items found during the 1999 site inspection, however, this site is now thought to be a rocket impact area. Nevertheless, the original name of this site has been retained to prevent confusion. The elevation of this site is about 29 meters (95 feet) asl, but a deep ravine abuts the site, falling to about 12 meters (40 feet) asl. There is indirect access to this site via walking from the gravel road originating from the east side of Andrew Lake near the Recreation Center. The entire historical impact area in which this site resides is currently fenced (4-strand barbed wire), with posted signage to deter public access. The terrain is generally flat. However, a deep ravine abuts the site on the west. Vegetation consists of low-growing upland tundra species ranging in height from 6 to 12 inches. Groundwater is anticipated to be deep based on this site’s elevation compared with Andrew Lake and Andrew Bay.
SA93-04[b]	Source Area #93 – Eastern Disposal Site	SA93-04 is a potential storage area and covers 0.25 acre. This site consists of a small area located on the eastern border of SA93-02, abutting the gravel access road serving the former long-range navigation Coast Guard Station to the north. It is bordered by SA93-02 to the north, south, and west, and by an area lying outside of Parcel 4 to the east. The elevation in this small, square site is about 76 meters (250 feet) asl. There is direct access to this site via the gravel road originating from the east side of Andrew Lake near the Recreation Center. The entire historical impact area in which this site resides is currently fenced (4-strand barbed wire), with posted signage to deter public access. The terrain is relatively flat. Vegetation is generally a mixture of grasses, sedges, mosses, and heaths ranging in height from 12 to 24 inches. Groundwater is anticipated to be deep based on this site’s elevation compared with Andrew Lake and Andrew Bay, although standing water and marshy areas have been observed.

Table 3-2 (Continued)
OU B-2 Sites

[a]Information on the OU A and OU B-1 sites is included in the Site Catalog.
[b]These sites are currently proposed as "Limited Action" sites in the OU B-2 draft final feasibility study (U.S. Navy 2011f).
[c]The subsurface portion of this site is currently proposed as "Limited Action."

Notes:
asl - above sea level
DMM - discarded military munitions
mm - millimeter
NAF - Naval Air Facility
NOFA - no further action
OB/OD - open burn/open detonation
OU - operable unit
SA - source area
SWMU - solid waste management unit
WWII - World War II

4.0 REMEDIAL ACTIONS

The ROD for interim remedial actions (U.S. Navy, USEPA, and ADEC 1995) and the OU A ROD (U.S. Navy, USEPA, and ADEC 2000) for Adak required remedial actions for 66 OU A sites (19 CERCLA sites, which include 3 water bodies and 3 state-permitted landfills [SWMUs 18, 19 and 25], three combined CERCLA and petroleum sites [SWMUs 14, 15, and 17], the CERCLA portion of one combined CERCLA and petroleum site [SWMU 55], the SAERA portion of one combined RCRA and petroleum site [SA 77], and 42 petroleum sites [counting the two NMCB sites as separate sites]). Remedial actions were required in accordance with State of Alaska or RCRA requirements at five of the OU A sites and were included in the OU A ROD (U.S. Navy, USEPA, and ADEC 2000). Landfill closures were required at three landfills as part of the permit conditions enforced by the State of Alaska through 18 AAC 60 (SWMUs 18, 19 and 25), and two sites were closed under RCRA (SWMU 24 and SA 77). Although SWMU 24 and SA 77 were both NFA sites under RCRA, both have ongoing ICs as required by the RCRA closure plan. The OU B-1 ROD (U.S. Navy, USEPA, and ADEC 2001) required further investigation or remedial actions for 50 OU B-1 sites (including the 3 new sites, MM-10F, MM-10G, and MM-10H, identified in 2004 that are located within or adjacent to MM-10E). This section provides a brief description of the RAOs, the selected remedy, and the remedial actions for these sites.

4.1 OU A

4.1.1 OU A Remedial Action Objectives

CERCLA Sites

The 23 CERCLA sites (which includes four combined CERCLA and petroleum sites) and 46 petroleum sites (which includes three combined CERCLA and petroleum sites and one combined RCRA and petroleum site) where the 2000 OU A ROD and the 1995 ROD required some type of response action can be grouped into four major categories of sites, each with different primary RAOs. These categories include the following:

- Landfills where landfill covers were installed (six sites: SWMUs 4, 11, 13, 18/19, and 25)
- CERCLA sites with long-term monitoring and/or ICs only (15 sites: SWMUs 2, 10, 14, 15, 16, 20, 21A, 23, 29, 52, 55, and 67, SA 76, Sweeper Cove, and Kuluk Bay)

- CERCLA sites where soil and/or sediment were removed (two sites: SWMU 17 and South Sweeper Creek)

- Petroleum sites where remedial actions were required, including the two NMCB sites as separate sites and SWMUs 14, 15, and 17 (46 sites)

The RAOs for each of these categories are described in the sections below.

Landfills with Covers. Landfill covers have been installed at the following sites: SWMUs 4, 11, 13, 18/19, and 25. Landfill covers were constructed as required under the 1995 interim action ROD for SWMUs 11 and 13 and under the 2000 OU A final ROD for SWMU 4. The OU A ROD selected the capping of the permitted landfills at SWMUs 18, 19, and 25 under State of Alaska solid waste regulations (18 AAC 60) as the final action for these SWMUs (U.S. Navy, USEPA, and ADEC 2000, page 4-6). The OU A ROD did not establish explicit RAOs for SWMUs 18, 19, or 25. The RAOs for the sites that required landfill covers under the OU A ROD are the following:

- SWMU 4: Prevent ingestion of and contact with chemically affected subsurface soils within the landfill debris and protect ecological receptors that may ingest on-site plants (plants may uptake subsurface chemicals) (U.S. Navy, USEPA, and ADEC 2000, page 10-6).

- SWMUs 11 and 13: Protect human health and ecological receptors from exposure to landfill debris and soil that could result in a cancer risk greater than 1×10^{-5} or a noncancer risk above an hazard index (HI) of 1.0 (U.S. Navy, USEPA, and ADEC 2000, page 10-2).

CERCLA Sites with Institutional Controls Only. The following chemical-release sites administered under CERCLA require ICs only under the OU A ROD: former landfills at SWMUs 2 and 29; the water bodies Sweeper Cove and Kuluk Bay; and SWMUs 10, 14, 15, 16, 20, 21A, 23, 52, 55, 67, and SA 76. Two additional sites, SWMU 24 and SA 77, were closed under RCRA and have ongoing ICs, as required in the RCRA closure plan. The OU A ROD did not explicitly establish RAOs for SWMU 24 and SA 77 as CERCLA chemical release sites, although an RAO was established for SA 77 as a petroleum site. Note that ICs are also required at the landfills and SWMU 17 (Section 4.1.2). The RAOs for CERCLA sites with ICs only are the following:

- The RAOs for the landfills at SWMUs 2 and 29 are to protect human and ecological receptors from exposure to landfill debris and soil that could result in a cancer risk greater than 1×10^{-5} or a noncancer risk above an HI of 1.0 (U.S. Navy, USEPA, and ADEC 2000, page 10-2).

- The RAOs for Sweeper Cove and Kuluk Bay consist of the protection of subsistence fishers from ingestion of fish and shellfish containing polychlorinated biphenyls (PCBs) that could result in a cancer risk greater than 1×10^{-5} or a noncancer risk above a HI of 1.0 (U.S. Navy, USEPA, and ADEC 2000, page 10-4).

- The RAOs for the remaining SWMUs and SAs consist of protection of human or ecological exposure to soil or groundwater. This exposure could result in a cancer risk greater than 1×10^{-5}, or a noncancer risk above a HI of 1.0.

CERCLA Soil and Sediment Removal Sites – SWMU 17 and South Sweeper Creek. The RAOs at the SWMU 17 waste oil and retention ponds are to protect benthic infauna from contacting impacted freshwater sediments, and birds from ingesting surface water. The sediments and surface water were estimated to have an ecological HI in excess of 1.0 (U.S. Navy, USEPA, and ADEC 2000, page 10-9).

The RAO at South Sweeper Creek is to protect benthic infauna from contacting and ingesting sediments affected by PCBs (U.S. Navy, USEPA, and ADEC 2000, page 10-13).

Petroleum Sites

RAOs for media impacted by petroleum releases were based on 18 AAC 75. The RAOs for petroleum sites established in the OU A ROD were the following:

- Reduce petroleum concentrations in soil.
- Reduce volume of petroleum free product.
- Mitigate potential for downgradient migration.
- Reduce potential for direct exposure.

One or more of these RAOs is applicable to each of the 46 petroleum sites that required remedial action under the OU A ROD. Sixty-two petroleum sites, including the 46 petroleum sites that required remedial action under the OU A ROD, were removed from the OU A ROD by a ROD amendment. Final cleanup decisions for 14 of the 62 petroleum sites, as well as the implementation of all cleanup decisions and necessary monitoring for all 62 petroleum sites, was thereafter to be conducted in accordance with 18 AAC 75 and pursuant to the SAERA between the Navy and ADEC.

Fourteen petroleum sites removed from the OU A ROD potentially required further action under SAERA. A SAERA decision document memorializing final remedies at 10 of these sites was signed May 20, 2005 (U.S. Navy and ADEC 2005a) and included the following RAOs, which are both applicable to all 10 sites:

- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.
- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below ADEC groundwater cleanup levels.

The decision documents memorializing the final remedies for NMCB Building Area, T-1416 Expanded Area; SWMU 62, New Housing Fuel Leak; South of Runway 18-36 Area; and SWMU 17, Power Plant No. 3 Area (U.S. Navy and ADEC 2006a, b, and c, and 2007) included the RAOs listed in the subsections below, by site.

NMCB Building Area, T-1416 Expanded Area:

- Prevent human and ecological exposure to petroleum hydrocarbons in soil that would result in adverse health effects.
- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the ADEC groundwater cleanup levels established for groundwater not currently used for, or not reasonably expected to be used for, drinking water.
- Prevent potential future migration of contaminants to surface water at concentrations that could result in adverse ecological effects.
- Minimize exposure to free-phase petroleum product.

SWMU 62, New Housing Fuel Leak:

- Prevent human and ecological exposure to petroleum hydrocarbons in soil that would result in adverse health effects.
- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the ADEC groundwater cleanup levels established for groundwater used as a drinking water source.
- Minimize exposure to free-phase product in soil, groundwater, and surface water.
- Prevent migration of free product to surface water that would result in an exceedance of the ADEC surface water quality standard (sheen only).

South of Runway 18-36 Area:

- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the ADEC groundwater cleanup levels established for groundwater not currently used for, or not reasonably expected to be used for, drinking water.
- Minimize exposure to free-phase petroleum product.
- Prevent the migration of petroleum hydrocarbons to sediments that would result in adverse health effects to ecological receptors.
- Prevent the migration of petroleum hydrocarbons to surface water that would result in adverse health effects to ecological receptors and/or an exceedance of the Alaska surface water quality standards.

SWMU 17, Power Plant No. 3 Area:

- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the ADEC groundwater cleanup levels established for groundwater not currently used for, or not reasonably expected to be used for, drinking water.
- Minimize exposure to free-phase petroleum product.

4.1.2 OU A Remedy Selection

CERCLA Sites

To achieve RAOs, the remedial action components for CERCLA sites specified in the interim action ROD for SWMUs 11 and 13 and the OU A ROD (including the OU A water bodies and downtown groundwater) included the following:

- Placement of landfill covers
- Implementation of ICs to prohibit unacceptable exposure to residual hazardous substances left on site. ICs include a combination of restrictions on land use, groundwater use, and soil excavations; deed restrictions; fishing advisories; and educational orientation. The ICs program requires annual visual inspections, sample collection and analysis, and periodic site reviews to ensure the protectiveness of the controls.

- Excavation and treatment by thermal desorption of contaminated sediments and use of treated sediments as daily cover material at the Roberts Landfill

The specific remedial actions selected for each CERCLA site are provided in the Site Catalog included as Appendix A. ICs were selected as the primary remedy or as a part of the remedy for most sites that required a remedy. Details of IC requirements for all OU A sites are shown in Table 4-1.

Petroleum Sites

To achieve RAOs, the remedial action components for petroleum sites specified in the OU A ROD included the following:

- Free-product recovery to the maximum extent practicable as an interim remedial measure, followed by an evaluation of remedial alternatives per the FFS to achieve final cleanup levels under 18 AAC 75 for soils and groundwater

- Monitored natural attenuation of petroleum chemicals in soil and groundwater

- Limited soil removal, including treatment of petroleum-contaminated soils to meet 18 AAC 75 requirements and use of the treated soil as daily cover material at the on-island Roberts Landfill

- ICs to minimize the potential for direct contact, to restrict groundwater use, or to restrict excavation until remedial objectives have been met

- Limited groundwater monitoring at sites where hydrocarbon concentrations in soil exceed ADEC soil cleanup levels (18 AAC 75.340), but where concentrations in groundwater do not exceed 18 AAC 75.345 Table C values

The remedy selection for each petroleum site is provided in the Site Catalog included as Appendix A. The ICs for all OU A sites where ICs are required are described in Table 4-1.

In the 2003 OU A ROD Amendment No. 1 (U.S. Navy, USEPA, and ADEC 2003), there were two significant revisions to the OU A ROD (U.S. Navy, USEPA, and ADEC 2000). The first was the replacement of subsistence fish advisory signs along Kuluk Bay and Sweeper Cove with fish advisory fact sheets provided to Adak residents. The fishing advisory signs were removed at the request of the property owner with the concurrence of the Navy and regulatory agencies. The Navy issued and distributed the fact sheet to Adak residents in October 2003. The second was the removal of 62 petroleum sites from the OU A ROD to streamline regulatory oversight of the petroleum cleanup and to expedite the partial delisting of the downtown area from the NPL. Of the 62 sites removed from the OU A ROD, 46 sites were further action sites and 16 were NFA sites.

Final remedies were selected under SAERA for 14 of the 62 sites removed from the OU A ROD during the time frame 2005 to 2007 and memorialized in five decision documents (U.S. Navy and ADEC 2005a, 2006a, b, and c, and 2007). The 14 sites are the following:

- GCI Compound, UST GCI-1
- NORPAC Hill Seep Area
- SA 78, Old Transportation Building
- SA 80, Steam Plant 4, USTS 27089 and 27090
- SA 82, P-80/81 Buildings
- SA 88, P-70 Energy Generator (UST 10578)
- SWMU 58 and SA 73, Heating Plant 6
- Tanker Shed, UST 42494
- Yakutat Hangar
- NMCB Building Area, T-1416 Expanded Area
- South of Runway 18-36 Area
- SWMU 17, Power Plant No. 3
- SWMU 62, New Housing Fuel Leak

SWMU 58 and SA 73 are two sites combined into one action.

Selected remedies at all of these sites included one or more of the remedy components, ICs, limited groundwater monitoring, or monitored natural attenuation. In addition, free-product recovery or containment was selected as a remedy component for Tanker Shed, UST 42494; NMCB Building Area, T-1416 Expanded Area; and South of Runway 18-36 Area. Natural recovery for surface water and sediment was included as a remedy component for South of Runway 18-36 Area, and surface soil excavation was included as a remedy component for SWMU 62, New Housing Fuel Leak.

The decision document covering 10 of these sites (U.S. Navy and ADEC 2005a) required follow-on actions at 6 of the sites in support of the selected remedy. These follow-on actions consisted of the following:

- SA 80, Steam Plant No. 4 – additional soil and groundwater sampling and free-product recovery as needed

- SA 82, P-80/P-81 Buildings – additional limited soil removal

- SA 88, P-70 Energy Generator – additional groundwater sampling and free-product recovery as needed

- SWMU 58 and SA 73, Heating Plant No. 6 – additional soil, groundwater, and surface water sampling and free-product recovery as needed

- Tanker Shed – additional soil sampling and additional groundwater monitoring well installation and sampling

- Yakutat Hangar – additional surface water sampling

4.1.3 OU A Remedy Implementation

CERCLA and Petroleum Sites - Remedy Components Required by the OU A ROD

Most of the physical remedy construction required by the ROD was completed at OU A by 2003 with the closure of Roberts Landfill. The OU A remedy construction was considered complete in 2006, when the limited soil removal component of the remedy was performed at the two petroleum sites ASR-8 Facility (UST 42007-B) and SA-77, Fuels Facility Refueling Dock (Small Drum Storage Area). ADEC approved site closure status for ASR-8 Facility, UST 42007-B (ADEC 2007c) and conditional closure status for SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area (ADEC 2007d). The dates of the implementation of the selected remedial actions, and a summary of the remedial actions performed at each CERCLA and petroleum site are included in the Site Catalog (Appendix A). A summary of the sites that have achieved partial or complete closure status since execution of the ROD is provided in Tables 4-2 and 4-3.

Where required by the OU A ROD, product recovery, as an interim remedial action, limited groundwater monitoring, or monitored natural attenuation have been implemented and are ongoing, as described in Section 4.1.4. The practical endpoint for product recovery as an interim action under the OU A ROD has been met for all 14 sites where product recovery was required (U.S. Navy 1999, 2000b, 2002, and 2006c).

In 2005, data from 46 petroleum sites were evaluated to assess the effectiveness of the site-specific remedies under the OU A ROD and to evaluate the current site status. The informal review concluded that 19 sites were candidates for NFA or NFRAP consideration. The rationale for the recommended status was provided in the cleanup report (U.S. Navy 2005b). Under SAERA, ADEC and EPA concurred with NFA status for the following sites:

- Girl Scout Camp (UST GS-1)
- Officer and Amulet Housing (UST 31049-A)

- Quarters A

ADEC and EPA concurred with NFRAP status at the following sites (ADEC 2005b):

- Amulet Housing, Well AMW-706 Area
- Amulet Housing, Well AMW-709 Area
- Boy Scout Camp, West Haven Lake (UST BS-1)
- Contractor's Camp Burn Pad
- Finger Bay Quonset Hut (UST FBQH-1)
- MAUW Compound (UST 24000-A)
- Mount Moffett Power Plant 5 (USTs 10574 through 10577)
- NAVFAC Compound (USTs 20052 and 20053)
- Navy Exchange Building (UST 30027-A)
- New Roberts Housing (UST HST-7C)
- Officer Hill and Amulet Housing (UST 31047-A)
- Officer Hill and Amulet Housing (UST 31052-A)
- ROICC Contractor's Area (UST ROICC-8)
- ROICC Warehouse (UST ROICC-2)
- ROICC Warehouse (UST ROICC-3)
- Yakutat Hangar (USTs T-2039-B and T-2039-C)

Petroleum Sites - Post-OU A ROD Remedy Components Under SAERA

The final remedies have been implemented at the 14 petroleum sites removed from the OU A ROD and requiring further action under SAERA. Where required by the SAERA decision documents, limited groundwater monitoring, implementation of ICs, or monitored natural attenuation have been implemented through adjustments to the CMP. The additional remedy components required under the SAERA decision documents for the NMCB Expanded Area, SWMU 62 (New Housing Fuel Leak) and South of Runway 18-36 Area were implemented in 2006 (U.S. Navy 2007c). These additional components included soil hot spot removal, additional monitoring, free-product recovery wells and trenches, and initiation of free product-recovery systems. More information regarding the final remedy implementation at each site is provided in the Site Catalog (Appendix A).

In addition to remedy implementation, the follow-on actions have been implemented as required for SA 80, SA 82, SA 88, SWMU 58/SA 73, Tanker Shed, and Yakutat Hangar. In addition to these follow-on actions, the Navy conducted additional investigation activities at the following sites at the request of ADEC (U.S. Navy 2010f):

- Antenna Field

- Former Power Plant, Building T-1451
- SA 79, Main Road Pipeline, South End
- SWMU 60, Tank Farm A
- SWMU 61, Tank Farm B

The additional investigation activities conducted for these sites during this 5-year review period were the result of concerns expressed by ADEC in their comments on the annual groundwater monitoring report covering the 2006 and subsequent monitoring seasons (ADEC 2007e and U.S. Navy 2007e). The results of the additional investigations are summarized in the Site Catalog (Appendix A) entries for these sites.

Concurrent with the limited soil removal at ASR-8 and SA-77 under the OU A ROD, limited soil removal was also performed at SA 82 as required by the May 20, 2005 decision document (U.S. Navy and ADEC 2005a). ADEC concurred that cleanup was complete at SA 82, with ICs required (ADEC 2010).

A summary of the sites that have achieved partial or complete closure status since execution of the ROD is provided in Tables 4-2 and 4-3.

4.1.4 OU A Operation, Maintenance, and Monitoring

Since the second 5-year review in 2006 (U.S. Navy 2006b), the Navy has continued operation, maintenance, and monitoring of the OU A remedies for both CERCLA and petroleum sites. The Navy has operated, maintained, monitored, or inspected 50 OU A sites since 2006. Operation, maintenance, and monitoring activities on Adak included groundwater, surface water, sediment, and marine tissue monitoring; education program maintenance; ICs inspections; sign and soil cover inspections; shoreline inspections for the presence of free product; free-product monitoring; and free-product recovery operations. Site-specific summaries of ongoing operation, maintenance, and monitoring activities are provided in Appendix A, Site Catalog. A summary of island-wide activities is provided in the sections below.

Monitoring and Operation and Maintenance Plans

Operation, maintenance, and monitoring of the OU A remedies on Adak are specified in the CMP (U.S. Navy 2010a) (except for South of Runway 18-36 Area and SWMU 62, New Housing Fuel Leak site), which describes the monitoring requirements for ICs, groundwater, surface water, sediment, and tissue. The CMP is periodically revised, generally on a 2- to 3-year cycle. The CMP includes an overview of the status and types of monitoring to be conducted, and a summary of changes since the last revision. Appendices to the CMP include the groundwater monitoring plan, landfill monitoring plan, marine tissue monitoring plan, quality assurance project plan, and the ICMP. During data review performed for this 5-year review (Section 6.4), some discrepancies were identified in the current version of the CMP (U.S. Navy 2010a), although this plan represents concurrence between the Navy and regulatory agencies. Where identified by this 5-year review, site-specific CMP discrepancies are called out in the site-specific write-ups in Section 6.4. Discrepancies in monitoring plans can lead to the collection of unnecessary data, or data that are not sufficient to document the continued protectiveness of the remedy. Discrepancies in the CMP will be corrected when they are identified.

Operation and Maintenance (O&M) activities related to free-product recovery at two sites, South of Runway 18-36 Area and SWMU 62, New Housing Fuel Leak, together with sorbent boom maintenance activities at various locations, are also covered by a separate O&M plan (U.S. Navy 2009a).

The Navy maintains the ICMP (an appendix to the CMP) to ensure the reliability and effectiveness of the ICs as required by the OU A ROD, the OU B-1 ROD, and the SAERA decision documents. The ICMP was originally published in 2001 as an appendix to the CMP, which was updated in 2004, 2005, 2007, and 2010 (U.S. Navy 2001a, 2004, 2005c, 2007d, and 2010a). The ICMP was revised to reflect the remedial activities and property transfer actions that have taken place since 2001 and revisions to IC management practices to ensure efficacy of ICs. Specifically, the following was included in the most recent version of the document:

- Summaries of recent remedial decisions and actions taken at petroleum sites in OU A under SAERA

- Changes to the UXO Awareness Education Plan, the IC Excavation Notification Form, and the Primary Inspection Checklist

- Resolution of the dispute regarding OU B-1 sites with slopes greater than 30 degrees

When the property was transferred to TAC, land use restrictions and excavation prohibitions were included in the Interim Conveyance. The land use restrictions and excavation prohibitions “run with the land” and are binding on all subsequent owners. Additional details regarding the current IC program on Adak are included in Sections 6.2.2 and 6.2.3.

Review of the ICMP during this 5-year review revealed that ICs are not currently documented in the ICMP for the following sites, even though petroleum hydrocarbons remain at the site above residential cleanup levels and ADEC has not granted full site closure: Contractor’s Camp Burn Pad, NAVFAC Compound, Navy Exchange Building, New Roberts Housing, Officer Hill and Amulet Housing (UST 31047-A), Officer Hill and Amulet Housing (UST 31052-A), ROICC Warehouse (UST ROICC-2), ROICC Warehouse (UST ROICC-3), and Yakutat Hangar (USTs T-2039B and T-2039C). IC inspections are not being conducted at these sites. This 5-year review recommends (Section 8) updating the ICMP to address these sites and resolve other discrepancies between the source documents that establish ICs and the IC requirements listed in the ICMP in the equivalent to Table 4-1 of this 5-year review.

Site-Wide Land Use Control Monitoring

The Navy monitors and assesses the effectiveness of the land use controls (LUCs), including both ICs and ECs selected in the OU A and OU B-1 RODs at the former Adak Naval Complex. The Navy verifies that LUCs remain effective on an annual basis. In addition, maintenance activities are identified during the annual inspections that are needed to ensure the continued effectiveness of the ICs and ECs. In 2006, 2007, 2008, and 2010 maintenance activities included fence repairs, gate installation, sign installation, drainage repairs at Roberts, Metals, and Palisades Landfills, and supplemental inspection of drainage swale liners at Metals, White Alice, and Palisades Landfills (U.S. Navy 2007c, 2008a, and 2009b). A discussion of the inspection results and repairs during each year of this 5-year review period is provided in Section 6.5. Major maintenance activities conducted during this 5-year review period are discussed below. More substantial IC repairs sometimes require additional time for planning and contracting and are completed as soon as practical, but not necessarily by the next field season after they are identified.

Fence repairs included repairing and/or replacing 300 feet of existing fence along the east perimeter of the SA 93 site in 2006 and 160 feet of existing fence near the new gates in 2007. Fence repairs were also completed in 2008. Approximately 2,500 feet of fencing was repaired on the west side of Andrew Lake within Parcel 4, on the east and southeast side of SA 93, on southwest side of Roberts Landfill, and on the east side of White Alice Landfill.

Steel swing gates were installed at the entrance road on the west side of Andrew Lake to deter access into Parcel 4 and at the main entrances to the White Alice, Roberts, and Metals Landfills. In addition, each of the new gates at the landfills included the installation of 20 feet of 4-strand barbed wire fence on either side (120 feet) to discourage drive-arounds.

The Navy implemented a sign improvement program in 2006. This included the installation of ten warning signs at four landfills during 2006: SWMU 2 (Clam Lagoon Causeway Landfill), SWMU 4 (South Davis Road Landfill), SWMU 13 (Metals Landfill), and SWMU 29 (Finger Bay Landfill). One sign was installed at the Metals Landfill, and three signs were installed at each of the other landfills. Wording on the signs included: “Warning, Buried Landfill” and “Digging within this area strictly prohibited.” Sign installations continued in 2007 and included the posting of over 99 new signs at locations where existing signs were either previously removed or an insufficient number of signs were present for adequate public warning. Five types of signs were installed as part of the maintenance and upgrades: (1) warning signs (Type A-1) showing Navy approval is required prior to excavation, (2) warning signs (Type A-2) at locations where digging is strictly prohibited, (3) “Danger, Do Not Enter” signs (Type A-5) at the entrance to landfills, (4) small “Danger, Live Munitions Present” signs (Type A-3) along the perimeter fencing of Parcel 4, and (5) larger “Live Munitions Present” signs (A-4) along the Andrew Lake seawall warning boaters of the presence of ordnance hazards. In 2008, “No Trespassing” signs (Type A-6) were posted at the former Caretaker Site Office cabin and the recreational cabin located next to Lake Jean, both of which are within the Parcel 4 boundary.

4.2 OU B-1

4.2.1 OU B-1 Remedial Action Objectives

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and risks posed by MEC to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level goal entails removing all known MEC items to a depth of 4 feet bgs that are located in reasonably accessible areas, using an ordnance detection system that meets performance criteria established for Adak.

The RAO for potential MC risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 preliminary remediation goals for residential soil. This chemical-risk RAO is applicable at the seven locations identified in the ROD as having potential chemical risks and at the additional locations where subsequent field investigations indicated the potential for chemical residues.

4.2.2 OU B-1 Remedy Selection

Some action was required at 47 sites by the OU B-1 ROD to meet the RAOs. (The OU B-1 ROD did not include remedies for MM-10F, MM-10G, and MM-10H, because these sites were not identified until 2004.) The actions required by the OU B-1 ROD fall into three categories:

- Three sites were to be cleared of MEC to a depth of 4 feet bgs (C3-01A, C6-01A, and ML-01A).

- Forty-four sites were to be investigated to identify locations of MEC contamination and, if necessary, remove potential MEC anomalies to a depth of 4 feet bgs.

- Nine sites were selected in the OU B-1 ROD for Alternative 4, soil samples collected and analyzed for MC.

The number of sites listed in the bullets above does not equal 47, because more than one action was selected for some of the sites. In addition to the actions listed above, maintenance of the facility-wide ordnance awareness program is also applicable to the 47 sites.

As indicated above, three new sites were identified in 2004 within the boundaries of MM-10E. These three sites are MM-10F, MM-10G, and MM-10H. Based on the addition of these three sites, the total number of OU B-1 sites requiring actions is 50. Because these three sites are within the boundaries of MM-10E, remedial actions specified in the OU B-1 ROD for MM-10E are applicable to MM-10F, MM-10G, and MM-10H.

For the remaining OU B-1 sites, the selected remedy was No Further Action (abbreviated as "NOFA" in the OU B-1 ROD) with maintenance of a facility-wide ordnance awareness program. The NOFA selection for these sites was considered protective of human health and the environment, based on the evaluation processes developed and implemented during the preliminary assessment and site investigation process that resulted in determinations of little or no MEC hazards, or the results of RI and ESHA evaluations that resulted in similar determinations. The process of intrusive investigation and clearance of MEC during field activities associated with one of these steps resulted in the effective clearance of MEC at the site, thereby supporting the NOFA selection.

4.2.3 OU B-1 Remedy Implementation

Remedial action selection and implementation at OU B-1 is summarized by site in the Site Catalog (Appendix A). The selected remedies have been implemented at nearly all of the 50 OU B-1 action sites. Conditional closure has been achieved for 18 of the 50 sites (Table 4-3). ADEC and EPA have not yet concurred with all of the remedial actions, and, therefore, the remedy cannot be considered complete at all sites.

Documentation of OU B-1 remedy implementation was found to be incomplete in several instances during this 5-year review. For example, documentation of the destruction of several UXO items at one site could not be found, documentation of the excavation of soil containing

MCs at concentrations exceeding cleanup levels at one site could not be found, and documentation of chemical sampling required by the OU B-1 ROD at several sites could not be found. However, the incomplete documentation did not impair the assessment of remedy protectiveness. Complete documentation will be assembled as part of the preparation of the remedial action completion report for OU B-1.

A concurrence letter from ADEC (or EPA) has not been received for the OU B-1 site remediation performed in 2001 and 2002. This includes the following sites: AP-02, C3-01B, C3-01C, C3-04A, C6-01A, C8-05A, FB-01, FB-04, FBAP-02, GUN-01, GUN-02, GUN-03, HP-01, ML-01A, ML-01B, ML-02A, ML-02B, BC-01, C1-03, C2-01A, C2-01B, C2-02, C3-01A, C3-01E, C8-03, FB-03, and MM-10C.

A concurrence letter was received from ADEC for MM-10E on January 16, 2008. However, ADEC revoked conditional closure status for MM-10E in a letter dated April 7, 2009, because numerous munitions debris items were identified and removed from MM-10E in 2008. These items were discovered during installation of geophysical prove-out areas for remediation activities at MM-10F, MM-10G, and MM-10H.

A concurrence letter from ADEC (or EPA) has not been received specifically for MM-10A and MM-10B. However, remediation of these sites was performed in conjunction with MM-10F. The after action report covering clearance activities at Mount Moffett sites MM-10E, MM-10F, MM-10G, and MM-10H through 2010 has not yet been finalized, and, therefore, the remedy at these sites cannot be considered complete. ADEC concurrence of MM-10E, MM-10F, MM-10G, and MM-10H (including MM-10A and MM-10B) remediation completion is pending resolution of comments on the 2008, 2009, and 2010 field season after action report.

A summary of the sites that have achieved partial or complete closure status since execution of the ROD is provided in Tables 4-2 and 4-3.

4.2.4 OU B-1 Operation, Maintenance, and Monitoring

Since the second 5-year review in 2006 (U.S. Navy 2006b), the Navy has continued operation, maintenance, and monitoring of the OU B-1 remedies. Operation, maintenance, and monitoring activities associated with the OU B-1 sites on Adak included education program maintenance, ICs inspections, and sign inspections. These activities are implemented on an island-wide basis. There are no site-specific operation, maintenance, and monitoring activities for OU B-1 sites. Details of the island-wide activities applicable to the OU B-1 sites are provided in Section 4.1.4 and 6.2.3.

Table 4-1
Institutional Controls, Engineering Controls, and
Operation and Maintenance for OU A Sites

		Institutional Controls					ECs		Operation and Maintenance					
Site Name	**Source[n]**	**Land Use Restrictions[a]**	**Equitable Servitude[b]**	**Groundwater Restrictions[c]**	**Soil Excavation Restrictions[d]**	**Fishing Advisory[e]**	**Comprehensive Monitoring[j]**	**Signage**	**Education[f,g]**	**Site/Remedy Condition Inspections and Reporting[e,g]**	**Sign Inspection[h]**	**Soil Cover Inspections[i]**	**Free-Product Monitoring and Recovery[p]**	**Visual Inspection[q]**
CERCLA Sites														
Kuluk Bay	ROD					X	X		X	X				
SA 76, Old Line Shed Building	ROD	X	X	X	X					X				
SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area[r]	RCRA, ADEC 2007c	X	X	X	X			X	X	X				
Sweeper Cove	ROD					X	X		X	X				
SWMU 2, Causeway Landfill**	ROD	X	X		X			X		X	X	X		
SWMU 4, South Davis Road Landfill**	ROD	X	X		X			X		X	X	X		
SWMU 10, Old Baler Building	ROD	X	X	X	X			X		X	X			
SWMU 11, Palisades Landfill**	ROD	X	X		X		X	X		X	X	X		
SWMU 13, Metals Landfill**	ROD	X	X	X	X		X	X		X	X	X		
SWMU 14, Old Pesticide Disposal Area*	ROD	X	X	X	X		X	X		X	X			
SWMU 15, Future Jobs/DRMO*	ROD	X	X	X	X		X	X		X	X			
SWMU 16, Former Firefighting Training Area	ROD	X	X	X	X			X		X	X			
SWMU 17, Power Plant 3 Area*	ROD, DD	X	X	X	X		X	X		X	X			
SWMU 18, South Sector Drum Disposal Area (White Alice Landfill) and SWMU 19, Quarry Metal Disposal Area (White Alice Landfill)**	ROD[s]	X	X		X		X	X		X	X	X		
SWMU 20, White Alice/Trout Creek Disposal Area	ROD	X	X		X			X		X	X			
SWMU 21A, White Alice Upper Quarry	ROD	X	X		X			X		X	X	X		

Table 4-1 (Continued)
Institutional Controls, Engineering Controls, and Operation and Maintenance for OU A Sites

		Institutional Controls					ECs		Operation and Maintenance					
Site Name	**Source[n]**	**Land Use Restrictions[a]**	**Equitable Servitude[b]**	**Groundwater Restrictions[c]**	**Soil Excavation Restrictions[d]**	**Fishing Advisory[e]**	**Comprehensive Monitoring[j]**	**Signage**	**Education[f,g]**	**Site/Remedy Condition Inspections and Reporting[e,g]**	**Sign Inspection[h]**	**Soil Cover Inspections[i]**	**Free-Product Monitoring and Recovery[p]**	**Visual Inspection[q]**
SWMU 23, Heart Lake Drum Disposal Area	ROD	X	X		X			X		X	X			
SWMU 24, Hazardous Waste Storage Facility[r]	RCRA	X	X	X	X			X		X	X			
SWMU 25, Roberts Landfill**	ROD[s]	X	X	X	X		X	X		X	X	X		
SWMU 29, Finger Bay Landfill**	ROD	X	X		X			X		X	X	X		
SWMUs 52, 53, 59, Former Loran Station	ROD	X	X		X			X		X	X			
SWMU 55, Public Works Transportation Department Waste Storage Area	ROD	X	X	X	X		X	X		X	X			
SWMU 67, White Alice PCB Spill Site	ROD	X	X		X			X		X	X	X		
Petroleum Sites														
Amulet Housing, Well AMW-706 Area	ROD	X	X	X	X			X		X	X			
Amulet Housing, Well AMW-709 Area	ROD	X	X	X	X			X		X	X			
Antenna Field, USTs ANT-1, ANT-2, ANT-3, and ANT-4	ROD	X	X	X	X		X	X		X	X			
Boy Scout Camp, West Haven Lake, UST BS-1	ADEC 2005a				X			X			X			
Finger Bay Quonset Hut, UST FBQH-1	ADEC 2005a				X			X			X			
Former Power Plant, Building T-1451	ROD	X	X	X	X		X	X		X	X			
GCI Compound, UST GCI-1[m]	ROD, DD	X	X	X	X		X	X		X	X		X	

Table 4-1 (Continued)
Institutional Controls, Engineering Controls, and Operation and Maintenance for OU A Sites

Site Name	Source[n]	Institutional Controls					ECs		Operation and Maintenance					
		Land Use Restrictions[a]	Equitable Servitude[b]	Groundwater Restrictions[c]	Soil Excavation Restrictions[d]	Fishing Advisory[e]	Comprehensive Monitoring[j]	Signage	Education[f,g]	Site/Remedy Condition Inspections and Reporting[e,g]	Sign Inspection[h]	Soil Cover Inspections[i]	Free-Product Monitoring and Recovery[p]	Visual Inspection[q]
Housing Area (Arctic Acres)	ROD	X	X	X	X		X	X		X	X			
MAUW Compound, UST 24000-A	ADEC 2005a				X			X			X			
Mount Moffett Power Plant 5 (USTs 10574 through 10577)	ADEC 2005a				X			X			X			
NMCB Building Area, T-1416 Expanded Area[k,o]	DD	X	X	X	X	X	X	X		X	X		X	X
NORPAC Hill Seep Area[k]	ICMP	X	X	X	X		X	X		X	X			X
ROICC Contractor's Area (UST ROICC 7)	ICMP						X	X			X			
ROICC Contractor's Area (UST ROICC 8)	ROD	X	X	X	X			X		X	X			
Runway 5-23 Avgas Valve Pit	ROD	X	X	X	X		X	X		X	X			
SA 73/SWMU 58, Heating Plant 6[m]	DD	X	X	X	X		X	X		X	X			
SA 78, Old Transportation Building USTs[m]	DD	X	X	X	X		X	X		X	X			
SA 79, Main Road Pipeline	ICMP			X			X				X			X
SA 80, Steam Plant 4, USTs 27089 and 27090[m]	DD	X	X	X	X		X	X		X	X			
SA 82, P-80/P-81 Buildings[m]	ADEC 2010	X	X		X		X	X		X	X			
SA 88, P-70 Energy Generator, UST 10578[m]	ICMP	X	X		X		X	X		X	X			
South of Runway 18-36 Area[k,o]	DD	X	X	X	X		X	X		X	X		X	X
SWMU 14, Old Pesticide Disposal Area*	ROD	X	X	X	X		X	X		X	X			
SWMU 15, Future Jobs/DRMO*	ROD	X	X	X	X		X	X		X	X			

Table 4-1 (Continued)
Institutional Controls, Engineering Controls, and Operation and Maintenance for OU A Sites

		Institutional Controls					ECs		Operation and Maintenance					
Site Name	Source[n]	Land Use Restrictions[a]	Equitable Servitude[b]	Groundwater Restrictions[c]	Soil Excavation Restrictions[d]	Fishing Advisory[e]	Comprehensive Monitoring[j]	Signage	Education[f,g]	Site/Remedy Condition Inspections and Reporting[e,g]	Sign Inspection[h]	Soil Cover Inspections[i]	Free-Product Monitoring and Recovery[p]	Visual Inspection[q]
SWMU 17, Power Plant 3 Area*[m]	ROD, DD	X	X	X	X		X	X		X	X			
SWMU 60, Tank Farm A	ROD	X	X	X	X		X	X		X	X			X
SWMU 61, Tank Farm B	ROD	X	X	X	X		X	X		X	X			X
SWMU 62, New Housing Fuel Leak[o]	DD	X	X	X	X		X	X		X	X		X	X
Tanker Shed, UST 42494[l]	DD	X	X	X	X		X	X		X	X		X	
Yakutat Hangar, UST T-2039-A[k]	ADEC 2007a	X	X	X	X		X	X		X	X			
Downtown Exchange Area Groundwater*	ROD	X	X	X	X		X		X	X				

[a]Land use restrictions are required to ensure that the land will not be used in a way inconsistent with the land use assumptions set forth in the RODs.
[b]Land use restrictions/prohibitions have been included in the Interim Conveyance.
[c]The Downtown groundwater is restricted from domestic use.
[d]Excavation notification is required at all sites. Excavation is prohibited at the landfills and sites with a soil cover.
[e]Fishing advisory to recommend limiting subsistence consumption of bottom fish and mussels; fact sheets on the advisory available to City of Adak residents.
[f]Education Program (required for shellfish/fishery advisory and for ordnance hazards).
[g]Inspection and reporting of institutional controls annually, or as necessary and appropriate. Assess the need to take additional action or to reduce controls, as appropriate. A review of these sites will be reported every 5 years. The Downtown Exchange Area groundwater will be inspected by driving existing roads for evidence of domestic wells in use.
[h]Place and annually inspect signage for excavation restrictions, ordnance (at Parcel 4), and landfill hazards.
[i]Annually inspect soil covers to ensure they remain intact.
[j]Comprehensive monitoring is conducted annually and could include compliance groundwater monitoring required by the OU A ROD, limited groundwater monitoring, natural attenuation monitoring, etc. Details of the comprehensive monitoring program are provided in the Site Catalog (Appendix A).
[k]Site has met endpoint criteria for interim free-product recovery under the OU A ROD and received ADEC concurrence via approval of the final closure report (U.S. Navy 2006c).

Table 4-1 (Continued)
Institutional Controls, Engineering Controls, and Operation and Maintenance for OU A Sites

[l]Site has met endpoint criteria for final free-product recovery and received ADEC concurrence via approval of the final closure report (U.S. Navy 2006c).

[m]Site has met endpoint criteria for interim free-product recovery under the OU A ROD. ADEC concurred via approval of the final decision document for the site (U.S. Navy and ADEC 2005a).

[n]Regulatory source of the requirements in this table. "ROD" refers to the OU A ROD (Table 10-1 unless otherwise indicated). "DD" refers to State-Adak Environmental Restoration Agreement decision documents executed after the OU A ROD. "RCRA" refers to RCRA closure requirements. "ADEC 2007" and "ADEC 2005" refer to concurrence letters issued by ADEC (see Section 11 for references). "ICMP" means that the institutional control requirements are not listed in any ROD, DD, or ADEC concurrence letter, but have historically been included in the ICMP.

[o]Free-product recovery is part of the final remedy for South of Runway 18-36 Area, SWMU 62, and the NMCB Building Area, T-1416 Expanded Area

[p]This box is marked for sites with a current free-product recovery requirement based on a ROD or DD, and where endpoint criteria have not been met. Details of the current free-product monitoring and recovery requirements and activities provided in Section 6.4.

[q]Visual inspection of adjacent shoreline and surface water for petroleum seeps and sheens.

[r]Although this site is a RCRA No further Action site, institutional controls remain in place to restrict land use to commercial/industrial in accordance with the RCRA closure report. The remaining institutional controls are applicable because of the location of these sites in the downtown area.

[s]Institutional control requirements for White Alice and Roberts Landfills are not summarized in Table 10-1 of the OU A ROD, but are described in Section 10.4 of the OU A ROD.

Notes:
*CERCLA and petroleum institutional controls apply
**CERCLA landfill closures
ADEC - Alaska Department of Environmental Conservation
avgas - aviation gasoline
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
DD - decision document
DRMO - Defense Reutilization Marketing Office
ECs - engineering controls
GCI - General Communication Inc.
ICMP - Institutional Control Management Plan
OU - operable unit
PCB - polychlorinated biphenyl
RCRA - Resource Conservation and Recovery Act
ROD - Record of Decision
ROICC - resident officer in charge of construction
SA - source area
SWMU - solid waste management unit
UST - underground storage tank

Table 4-2
Sites Achieving No Further Action Status Since Execution of the ROD

Site Name	Operable Unit	Type of Site	Date[a]
Girl Scout Camp (UST GS-1)	A	Petroleum	11/23/2005
Officer Hill and Amulet Housing (UST 31049-A)	A	Petroleum	11/23/2005
Quarters A	A	Petroleum	11/23/2005
Tango Pad Spill Area[b]	NA	Petroleum	7/6/2007
ASR-8 Facility (UST 42007-B)	A	Petroleum	7/19/2007

[a]This is the date of Alaska Department of Environmental Conservation concurrence letter.
[b]This site was not included in the Operable Unit A ROD.

Notes:
NA - not applicable
ROD - Record of Decision

Table 4-3
Sites Achieving Conditional Site Closure Status Since Execution of the ROD

Site Name	Operable Unit	Type of Site	Date[a]
Amulet Housing, Well AMW-706 Area	A	Petroleum	11/23/2005
Amulet Housing, Well AMW-709 Area	A	Petroleum	11/23/2005
Boy Scout Camp, South Haven Lake (UST BS-2)	A	Petroleum	11/23/2005
Contractor’s Camp Burn Pad	A	Petroleum	11/23/2005
Finger Bay Quonset Hut (UST FBQH-1)	A	Petroleum	11/23/2005
MAUW Compound (UST 24000-A)	A	Petroleum	11/23/2005
Mount Moffett Power Plant 5 (USTs 10574 through 10577)	A	Petroleum	11/23/2005
NAVFAC Compound (USTs 20052 and 20053)	A	Petroleum	11/23/2005
Navy Exchange Building (UST 30027-A)	A	Petroleum	11/23/2005
New Roberts Housing (UST HST-7C)	A	Petroleum	11/23/2005
Officer Hill and Amulet Housing (UST 31047-A)	A	Petroleum	11/23/2005
Officer Hill and Amulet Housing (UST 31052-A)	A	Petroleum	11/23/2005
ROICC Contractor's Area (UST ROICC-8)	A	Petroleum	11/23/2005
ROICC Warehouse (UST ROICC-2)	A	Petroleum	11/23/2005
ROICC Warehouse (UST ROICC-3)	A	Petroleum	11/23/2005
Yakutat Hangar (USTs T-2039-B and T-2039-C)	A	Petroleum	11/23/2005
Yakutat Hangar (UST T-2039-A)	A	Petroleum	5/1/2007
SA 77, Fuel Division Area Drum Storage	A	Petroleum	7/16/2007
SA 82, NSGA P80, P81 Buildings	A	Petroleum	7/30/2007
BI-01	B1	Munitions	1/16/2008
C1-02	B1	Munitions	1/16/2008
C8-01	B1	Munitions	1/16/2008
DM-06A	B1	Munitions	1/16/2008
MM-01	B1	Munitions	1/16/2008
MM-02	B1	Munitions	1/16/2008
MM-03	B1	Munitions	1/16/2008
MM-04	B1	Munitions	1/16/2008
MM-05	B1	Munitions	1/16/2008
MM-06	B1	Munitions	1/16/2008
MM-07	B1	Munitions	1/16/2008
MM-08	B1	Munitions	1/16/2008
MM-09	B1	Munitions	1/16/2008
MM-11	B1	Munitions	1/16/2008
SH-01	B1	Munitions	1/16/2008
LJ-01	B1	Munitions	9/14/2010
LJ-02A	B1	Munitions	1/16/2008

[a]This is the date of Alaska Department of Environmental Conservation concurrence letter.

Notes:
Institutional controls are still in effect for these sites, and additional sampling would be required to achieve No Further Action status. However, all other remedial actions have been completed.
ROD - Record of Decision

5.0 PROGRESS SINCE LAST FIVE-YEAR REVIEW

This section summarizes the status of recommendations and follow-up actions from the last review, the results of implemented actions, including whether they achieved the intended purpose, and the status of any other prior issues. A summary of follow-up actions is detailed in Table 5-1. The Navy has completed all of the actions recommended by the last 5-year review. Efforts to improve communication with the community and stakeholders are ongoing.

Table 5-1
Actions Taken Since Previous 5-Year Review

Recommendations/ Follow-up Actions	Completion Date	Notes Regarding Completion	Reference
Revise endpoint criteria used to evaluate sediment concentrations at SWMU 11, Palisades Landfill, to more closely reflect potential health risks from sediment exposures at SWMU 11.	05/21/2007	Implemented through revisions to the CMP.	U.S. Navy 2007d
Implement recommendations and/or required repairs indicated in the 2005 IC inspection report for SWMUs 2, 4, 13, 25, and 29.	2007	Except for new sign placement and new gate installation at SMWU 25 in 2007, all other recommendations were implemented in 2006.	U.S. Navy 2007g, 2008e
Complete limited soil removal component of OU A remedy at the ASR-8 Facility and SA 77.	10/13/2007	ADEC approved site closure status for ASR-8 and conditional closure status for SA 77.	U.S. Navy 2007b; ADEC 2007c, 2007d
Evaluate, select, and implement additional land use controls to protect human health at OU B-1 and OU B-2 sites, where the selected remedy is not complete, while a remedy is selected (OU B-2) and a revised remedy is evaluated (OU B-1). Incorporate the selected land use controls in the next revision of the Institutional Control Management Plan.	2007	Land use controls were improved and the UXO/land use controls awareness materials were thoroughly revised in 2007 (see Section 6.2.3). Land use controls for OU B-2 sites are included in the Institutional Control Management Plan. However, a ROD formalizing the land use controls for OU B-2 has not yet been executed.	U.S. Navy 2008a
Resolve with regulators the MEC clearance approach for Mount Moffett sites and the issues related to the 2004 after action report for OU B-1 remedy implementation.	1/16/2008	The Navy has worked with the EPA and the ADEC to resolve the MEC clearance approach for the Mount Moffett sites and the issues related to the 2004 after action report. The 2004 after action report was revised in 2006, and a memorandum of resolution was appended to the report in 2007, which was executed by EPA, ADEC, and Navy in December of 2007 (U.S. Navy 2007h). The Navy agreed to complete the ROD-specified remedy of clearance to 4 feet below ground surface at	ADEC 2008a

Table 5-1 (Continued)
Actions Taken Since Previous Five-Year Review

Recommendations/ Follow-up Actions	Completion Date	Notes Regarding Completion	Reference
		MM-10F, MM-10G, and MM-10H in the memorandum of resolution. The remedy was implemented in 2008 and completed in 2010. The after action report for the 2008, 2009, and 2010 field seasons is currently being reviewed by the agencies. In addition, ADEC approved conditional closure for all of the other OU B-1 sites addressed during the 2004 field season.	
Continue to improve the ordnance awareness training program.	2007	New UXO and land use controls awareness DVD program was prepared and utilized (see Section 6.2.3 for more details).	U.S. Navy 2008a
Provide a sufficient supply of ordnance awareness hiking maps at the Refuge.	2007	Revised materials were provided to the U.S. Fish and Wildlife Service.	U.S. Navy 2008a
Address communication issues raised by stakeholders.	Ongoing	Stakeholders generally report improvements in their 2010 interview responses. However, some stakeholders still feel that communication could still be improved (see Section 6.5).	Interview responses (see Appendix B)
Work with Alaska Department of Transportation and Public Facilities to resolve their concern regarding written excavation procedures for the airport.	8/25/2010	Excavation notification procedures and absolute prohibitions regarding excavation were clarified in the August 2010 version of the Institutional Control Management Plan.	U.S. Navy 2010a
Because of the free product measured in the surface water protection well at the NORPAC Hill Seep Area site in 2005, add visual inspections for seeps and sheens to the annual monitoring protocol starting in 2006.	05/21/2007	Implemented through revisions to the CMP.	U.S. Navy 2007d

Table 5-1 (Continued)
Actions Taken Since Previous Five-Year Review

Recommendations/ Follow-up Actions	Completion Date	Notes Regarding Completion	Reference
Re-evaluate the selected final remedy for site SA 88, P-70 Energy Generator, considering the free product measured in wells at this site in 2005.	May 2007	Navy and ADEC agreed to add monthly free-product recovery for this site following the 2006 field season.	U.S. Navy 2010e, Appendix K
Conduct visual monitoring of shoreline and surface water for petroleum seeps and sheens at SWMU 61 in the vicinity of wells 14-113 and 14-210.	05/21/2007	Implemented through revisions to the CMP.	U.S. Navy 2007d
Implement future monitoring recommendations detailed in Section 6.4.	05/21/2007	Implemented through revisions to the CMP.	U.S. Navy 2007d

Notes:
ADEC - Alaska Department of Environmental Conservation
CMP - Comprehensive Monitoring Plan
EPA - U.S. Environmental Protection Agency
MEC - munitions and explosives of concern
OU - operable unit
Refuge - Alaska Maritime National Wildlife Refuge
ROD - Record of Decision
SWMU - solid waste management unit
UXO - unexploded ordnance

6.0 FIVE-YEAR REVIEW PROCESS

6.1 FIVE-YEAR REVIEW TEAM

The Navy is the lead agency for this 5-year review. Personnel from NAVFAC Northwest represented the Navy in this 5-year review. Project managers and other staff from the EPA and ADEC, the Alaska Department of Transportation and Public Facilities (ADOT&PF), and the other 5-year review team members have also participated in the review process. Both the EPA and ADEC are cosignatories of the RODs for the former Adak Naval Complex. All team members had the opportunity to provide input to this report.

6.2 COMMUNITY NOTIFICATION AND INVOLVEMENT

CERCLA Section 117(a), as amended, has specific requirements, including the distribution of certain reports to the public and that the public be notified of proposed cleanup plans and remedial actions. The community notification and involvement activities are described below.

6.2.1 Community Involvement During the Five-Year Review

A fact sheet was mailed to community members on November 4, 2010, advising that the Navy was performing a 5-year review and providing an opportunity for public review and comment. Community members (primarily Restoration Advisory Board [RAB] members) were interviewed as part of the site interview process described in Section 6.6. Aside from the interview responses, the Navy received no responses on the 5-year review.

6.2.2 History of Community Involvement

The Navy has maintained an ongoing community involvement program since environmental investigations were initiated at Adak. The community has been informed of activities at the site through fact sheets, public notices, open houses, public meetings, a Web site, and toll-free hot lines. Proposed plans were distributed for public comment prior to finalization of the RODs. Details of the community involvement history are provided in the following sections.

Information Repositories

The Information Repository, which includes a copy of the Administrative Record, is located at the University of Alaska, Reserve Room, 3211 Providence Drive, Anchorage, Alaska, and is available to the public. The Administrative Record includes all documents used by the parties to the FFA in decision making regarding Adak remediation. The official copy of the Administrative Record is located at NAVFAC Northwest, Silverdale, Washington. In addition, documents regarding the environmental investigation of Adak and the cleanup process are available to individuals on Adak at the Bob Reeve High School. The entire body of documents produced relative to CERCLA actions is intended to be available on Adak, together with copies of community and RAB briefing materials, newsletters, and fact sheets. It is not clear that the document repositories on Adak and in Anchorage are complete, especially with recent documents generated during this 5-year review period. Recently issued documents are, however, available at the Web site for Adak environmental cleanup, *www.AdakUpdate.com*. This 5-year review includes a recommendation to inventory and update the document repositories if necessary.

Community Relations Plan

The Community Relations Plan (CRP) formalizes the process for involving the Adak Island community, members of the public, and the extended community interested in environmental restoration and property reuse. The first CRP was prepared in 1993 and has been revised several times. The current CRP was updated in 2011.

Restoration Advisory Board

The Adak RAB was formed in 1996 to advise the Navy on decisions concerning cleanup on Adak. One of the RAB's activities is to review technical reports and provide comments and recommendations to the Navy.

The RAB originally consisted of approximately 45 interested private citizens and representatives of various organizations, such as TAC and the ARC. RAB membership has fluctuated since 1996. Since 2000, the Adak RAB membership has been updated periodically. Because Adak's population is transient, possible RAB candidates are identified and solicited by the on-island RAB co-chair and invited to an upcoming RAB meeting, where their names are presented for election to the board.

The RAB meets biannually, and all RAB meeting information is regularly posted on the Web site *www.AdakUpdate.com*. Meetings are held in Anchorage or on Adak Island, and facilities are provided to allow interested parties to participate by telephone. In the spring of 1999, the RAB received a Technical Assistance Public Participation grant from the Navy and was able to obtain a technical advisor (Dr. Ron Scrudato) to review documents and provide technical support. Since the time of the grant, the RAB members who applied for the grant have left the RAB, and the newer RAB members did not reapply.

Mailing List

The Navy maintains a mailing list as part of maintaining regular communication with the community. The list is updated regularly, as additional individuals request information or involvement.

Fact Sheets and Newsletters

Since September 1999, over 40 newsletters or fact sheets have been distributed. These newsletters, titled *Adak Update*, or fact sheets have been published as new issues, notifications, and significant documents are prepared. The newsletter is distributed to individuals and groups on the general mailing list. Additional copies of the newsletter and fact sheets are sent to the information repository on Adak and to the *www.AdakUpdate.com* Web site.

Hot Lines and E-mail

To support the local reuse authority and the RAB, the Navy established a toll-free hot line in December 1995. RAB members and citizens interested in reuse or environmental restoration of Adak are encouraged to call and to leave a message regarding their questions or concerns. Messages are retrieved daily and responded to as soon as possible, generally within 3 days. The excavation notification e-mail site is *AdakExcaNot@Navy.mil*. The hot-line telephone number is 1-866-239-1219.

Stakeholder Relations

As part of the current CRP, one-on-one stakeholder meetings continue to be conducted both in person and by telephone on a periodic basis. As an addendum to the formal public comment and communication requirements of the CERCLA process, this informal avenue of communication with island residents, by telephone calls, e-mail exchange, or through personal visits, often clarifies and supplements the Navy’s understanding of on-island sentiment regarding the Navy cleanup process. This more casual style of communication with the island community parallels the required formal process, but better accommodates the Alaskan oral customs and traditions. Years of consistent and direct response to island concerns, voiced either formally or informally, has resulted in an expectation by residents that their concerns will be both understood and addressed by Navy.

Several on-island visits have also been conducted by Navy technical and project management staff in the course of oversight of field investigation and construction projects.

Web Site

A project Web site *www.AdakUpdate.com* is currently on line. The site is accessible through common Internet search engines. Information is added and updated on a regular basis. The site contains all project newsletters, materials prepared for the RAB, fact sheets and news releases. Links are also provided to appropriate technical documents and information on RAB meetings and public meetings and to state and federal agency sites. The Web site includes Adak history, photographs, and interactive maps. There are currently more than 90 individuals/groups who receive an e-mail notification when content is posted or updated. Stakeholders and the public may also e-mail their questions and comments using contacts listed on the site.

Signs

In the past, the Navy has posted ordnance signs, landfill signs, and fishing restriction signs on the island. In late 2003, the fishing advisory signs were removed at the request of the property owner with the concurrence of the Navy and regulatory agencies. The fishing advisory signs were replaced by an information pamphlet.

Fact sheets containing information on the fish/shellfish consumption and related advisories were sent to on-island residents in October 2003, July 2004, January 2006, August 2006, February 2008, and June 2010. The Navy intends to continue to issue fact sheets to on-island residents on a biannual basis.

The Navy implemented a sign improvement program in 2006, as discussed in detail in Section 4.1.4.

6.2.3 UXO Awareness Education

The Navy implemented a resident-focused UXO awareness education program on Adak Island in 1998. Under this program the Navy is responsible for ensuring that island residents and visitors are aware of the potential to encounter MEC on Adak Island and know proper procedures for reporting such encounters. In addition, the program provides notification of access restrictions that exist for Parcel 4. To carry out these responsibilities, the Navy:

- Provides informational materials to residents of Adak (e.g., bookmarks, maps, and water bottles). These materials convey information regarding how to report potential encounters with MEC.

- Provides hiking maps, DVDs, posters, and other informational materials to the City of Adak for distribution and dissemination to residents and visitors to Adak.

- Provides hiking maps to USFWS Adak office to be provided to applicants of commercial special use permits. These maps provide information on access restrictions and reporting procedures for potential MEC encounters. USFWS reports these maps are extremely useful to the visiting population on Adak.

- Inspects access restriction notifications and barriers to ensure they function properly

- Communicates with City of Adak and on island employers to ensure awareness of access restrictions and the Navy's intent to enforce them.

- Reviews any incident related to potential MEC encounters on Adak Island to assess the need for revising existing provisions of the Adak LUC and UXO Education Awareness Program and IC.

While no requirement exists under a CERCLA ROD to maintain ICs within Parcel 4 areas at this time, the Navy has placed signage and fencing, as well as blocked access roads to Parcel 4 areas to reduce access and exposure to these areas since 1999. Since then, the Navy has continued to review and make improvements to the IC program to reduce explosive hazard exposure in this area and has included Parcel 4 in the ICMP.

During the second 5-year review, issues were raised regarding the effectiveness of the education awareness program, the LUCs, and communications with stakeholders. Because of these issues, the Navy has completed a thorough overhaul of the educational awareness materials on the island. This overhaul included installation of a television monitor and DVD player at the airport, updates to the LUC and UXO awareness DVD, and updates to the LUC and UXO awareness materials and maps. The Navy has also continued to provide fact sheets on a regular basis to provide updated information on ICs.

In July 2007, a television monitor and DVD player were installed at the airport terminal to run automatically during plane arrivals/departures (U.S. Navy 2008a). This system plays on a timed run, from 1 hour before each commercial flight to 1 hour after each commercial flight, for viewing by island visitors. The controller is also capable of manual playback for non-commercial/scheduled flights. The system was set up with an uninterrupted power supply (UPS) to ensure the system remains operational during power outages. Since the system was installed, there have been a few minor power outages during which the UPS was able to maintain power to the system. However, there were two occasions where the system had been unplugged from the electrical outlet. If the UPS is left unplugged for more than 4 hours, this causes it to be unable to repower the system, requiring a manual reboot. To prevent future tampering with the wall plug, the system was plugged into an electrical outlet above the drop ceiling in 2008 (U.S. Navy

2009b). In addition, the system was reprogrammed in November 2007, shortly after a change to the flight schedules.

The existing UXO awareness DVD was replaced with a newly prepared LUC and UXO awareness DVD program in 2007 (U.S. Navy 2008a). This new DVD was updated utilizing UXO awareness content from the previously prepared DVD. However, in this version, the children's portion of the video was removed and was released separately. In addition, a completely new section was added to this DVD that specifically addresses LUCs in place at various sites across the island. The DVD also includes an advertisement section for on-island businesses. Business advertisements were included to foster a community-shared vision in the execution of the Adak LUC and UXO Education Awareness Program. Copies of both the adult and child version were distributed to all island residents, with extra copies available for distribution by USFWS to visitors. In 2008, the DVD was replaced with a new one containing updated business information (U.S. Navy 2009b).

The Navy updated the LUC and UXO awareness maps and materials in 2007 (U.S. Navy 2008a), and a new update is scheduled for completion in early 2011. In the 2007 update, the existing large hiking trail map was updated to include new LUC documentation. In addition, a smaller version of the hiking trail map was developed to provide visitors and residents with a more easily handled pocket version. The new maps were prepared on tear-proof, waterproof paper. In addition to the new maps, the bookmark was updated to include the new LUC documentation, and a new water bottle design was created. Maps, bookmarks, and water bottles were distributed to all island residents. Multiple copies of the maps were provided the USFWS at their Homer and Adak, Alaska, offices. Additional quantities of the water bottles and bookmarks were also provided to the USFWS office on Adak for distribution to visitors to the island. The Adak school also received materials for the children on the island, including the child version of the LUC and UXO awareness DVD, together with coloring books, highlighters, and water bottles.

In 2011, the Navy will be preparing a munitions response desk guide that provides the following:

- Procedures for local officials to follow in the event of a MEC discovery. These procedures are already in place as part of the ICMP. However, this desk guide will make the information more accessible and establish a mechanism for verifying the information every 6 months.

- Identification of which areas of the island are generally the responsibility of the U.S. Army Alaska Fort Richardson Explosive Ordnance Disposal (EOD) Unit and versus the U.S. Navy Naval Air Station Whidbey EOD Mobile Unit Eleven for munitions response and a summary of exceptions that may occur.

- A geographic information system-based graphic showing historical MEC recoveries across the island, so that responders will know what has been found in an area they are mobilizing to.

The distribution of the desk guide will be limited to organizations with an active role in MEC response on Adak, including the City of Adak, the Adak police department, U.S. Army Alaska Fort Richardson EOD Unit, U.S. Navy Naval Air Station Whidbey EOD Mobile Unit Eleven, EPA, and ADEC. The desk guide is expected to be completed in the last calendar quarter of 2011.

6.3 DOCUMENT REVIEW

Documents reviewed during this 5-year review were primarily those describing the construction and monitoring of the selected remedies, including ICs monitoring and site inspections, up through the 2010 field season. The primary documents that were reviewed are listed below, and all of the documents reviewed are listed in Section 11.

- The signed RODs and amendments (U.S. Navy, USEPA, and ADEC 1995, 2000, 2001, 2002, and 2003)
- The signed decision documents (U.S. Navy and ADEC 2005a, 2006a, 2006b, 2006c, and 2007)
- The first and second 5-year review reports (U.S. Navy 2001b and 2006b)
- The current and previous versions of the CMP (U.S. Navy 2001a, 2004, 2005c, 2007d, and 2010a)
- Proposed long-term monitoring technical memoranda for NMCB Building Area, T-1416 Expanded Area; South of Runway 18-36 Area; SWMU 17, Power Plant No. 3; and SWMU 62, New Housing Fuel Leak site (U.S. Navy 2005d, 2006a, 2006e, and 2006f)
- The most recent groundwater and landfill monitoring reports and data
- Annual and monthly free-product recovery reports
- Various closure, cleanup, and completion reports
- Historical site assessment, inspection, and RI/FS reports

Review of these documents provided much of the information included in Sections 3 and 4 regarding the description of the sites, the RAOs and selected remedy components for each site, and the status of remedy implementation and monitoring at each site.

6.4 DATA REVIEW

This section describes trends in data collected through monitoring programs at the former Adak Naval Complex, with emphasis on data collected since the last 5-year review. The monitoring programs are described in Section 4, and the implications of the data on the functionality and protectiveness of the remedies are discussed in Sections 7 and 8. Trends for the data summarized herein are detailed in the annual groundwater monitoring report (U.S. Navy 2011a) and the annual landfill monitoring report (U.S. Navy 2011b). These documents are available for review in the document repositories in Anchorage, on Adak Island, and in Silverdale, Washington (see Section 6.2.2). Appendix C provides historical and current monitoring data in Excel spreadsheets. Statistical significance of a trend is defined in the OU A ROD (U.S. Navy, USEPA, and ADEC 2000) as a trend with a degree of confidence that is at least 80 percent. Trend evaluations included in the most recent groundwater monitoring report are summarized in this document. In addition, the Mann-Kendall trend summary table for the data summarized in this section and figures will be included in the Site Catalog for each site (Appendix A). Remedy status and changes to the monitoring program are briefly restated, as appropriate, in this section for context.

Most of the data collected at the former Adak Naval Complex between October 1, 2005 and September 30, 2010 have been collected in support of long-term monitoring at OU A sites, or in support of remedy selection and implementation at OU A and OU B-1 sites. Data collected in support of remedy selection or implementation have been documented in decision documents or closure reports, respectively. These data are not discussed in detail in this section, but are incorporated into site-specific data trend discussions where appropriate. However, data collected in support of remedy implementation are summarized in the Site Catalog entries for each site (Appendix A).

In general, monitoring has been conducted at OU A sites annually. Monitoring at OU A has been prescribed by the CMP for OU A, which has been revised four times since 2001 (U.S. Navy 2001a, 2004, 2005c, 2007d, and 2010a). Revisions have been reviewed and approved by ADEC and EPA. The CMP has been revised for the following reasons:

- To reflect site status changes as remedial progress is realized, with corresponding changes to monitoring programs

- To augment monitoring requirements for sites at which monitoring was previously prescribed, but remedial decisions were recently documented

- To incorporate monitoring requirements at additional sites for which remedial decisions have been recently documented

Free-product monitoring (product-thickness) has been performed annually at all petroleum sites as part of the annual groundwater monitoring activities, and monthly at petroleum sites where free-product recovery has been performed as part of remedy implementation or at the request of ADEC. Locations where free-product thickness measurements have been collected are documented in the monitoring history section of the Site Catalog (Appendix A). Product thickness data are summarized in two Excel spreadsheets in Appendix C. The Excel spreadsheet titled “Summary of Product Thickness Data 2005 through 2010” provides the product thickness data collected during the annual groundwater monitoring activities. Only nonzero product thickness data are included in this spreadsheet. The Excel spreadsheet titled “Recovered Product Thickness Summary 2006 through 2010” provides a summary of product thickness data collected during the monthly free-product recovery activities. Information is provided for each year of free-product recovery activities (September 2006, October 2006 through September 2007, October 2007 through September 2008, October 2008 through September 2009, and October 2009 through September 2010) including minimum, maximum, and average product thickness, and number of months product found. This information is provided for each well where monthly free-product activities occurred during this 5-year review period.

Recovered product volume data are also summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 through 2010.” Information is provided for each year of free-product recovery activities, including the minimum, maximum, average, and total monthly volume of recovered product for each year of activities and the total volume recovered during this 5-year review period. This information is provided for each well where free-product recovery activities have occurred, including any free product recovered during the annual groundwater monitoring events. The total volume of product recovered at each site during each year of product recovery and the total volume recovered at each site during this 5-year review period are also provided in this spreadsheet.

Free-product monitoring and free-product recovery activities are described in this section on a site-specific basis, including a discussion of product thickness and recovered product volume data. The text in this section is not intended to be a comprehensive discussion of all of the data collected in conjunction with the free-product recovery activities, but is meant to highlight the significant data.

The data review is summarized on a site-specific basis. Analytical results for groundwater, surface water, and sediment monitoring are compared to the endpoint criteria specified in the

CMP (U.S. Navy 2010a). For most of the sites, the endpoint criteria for groundwater are based on the ADEC groundwater cleanup levels (18 AAC 75.345). However, there are nine sites where the groundwater endpoint criteria are 10 times the ADEC groundwater cleanup levels, as specified in the decision documents for these sites (U.S. Navy and ADEC 2005a, 2006a, 2006b, 2006c, and 2007). These nine sites are the following:

- NMCB Building Area, T-1416 Expanded Area
- NORPAC Hill Seep Area
- SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs
- SA 82, P-80/P-81 Buildings, USTs 10587, 10579, and AST 10333
- SA 88, P-70 Energy Generator, UST 10578
- South of Runway 18-36 Area
- SWMU 17, Power Plant No. 3
- SWMU 58/SA 73, Heating Plant 6
- Yakutat Hangar, UST T-2039-A

At the conclusion of each of the site-specific data review sections (Sections 6.4.2 through 6.4.31), recommendations are made regarding future monitoring. In some cases, recommendations are also included regarding future free-product recovery, additional investigation, or remedy optimization. As recommended in Section 8, recommendations developed in this section should be incorporated into the analysis being performed by the existing Optimization Work Groups lead by NAVFAC Atlantic and NAVFAC Engineering Services Center. These Optimization Work Groups are in the process of optimizing the remedies and monitoring approach for Adak (see reference to these Optimization Work Groups in the interview response by ADEC in Appendix B). The primary objective of the optimization effort is to ensure that the monitoring program provides the quantity and quality of monitoring data necessary to make informed decisions regarding remedial system operation, including passive remedies, to verify progress toward remediation goals, and when possible, to achieve cost savings without impacting data quality. The optimization effort includes evaluation of program goals and objectives, number and location of monitoring wells, monitoring frequency, list of analytes, reporting, and data trends.

During the data review it was observed that the remedial action summary reports for free-product recovery at NMCB Building Area, SWMU 62, New Housing Fuel Leak, and South of Runway 18-36 Area did not provide adequate documentation of the free-product recovery operations at the site, including types of equipment installed in each well or recovery sump and maintenance activities performed (see also Section 4.1.3).

6.4.1 Natural Attenuation

Natural attenuation is a remedial component for many of the OU A sites. Natural attenuation parameters (NAPs), which are indicators of natural attenuation activity, have been measured at applicable sites by the Navy since at least 1999. NAPs were monitored annually until 2004. NAPs monitoring frequency was reduced to once every 5 years, with the last monitoring conducted in 2009. NAP monitoring results and interpretation of these results is presented in the 2009 annual groundwater monitoring report (U.S. Navy 2010e). In addition, the USGS characterized the effectiveness of natural attenuation processes for remediating petroleum-contaminated groundwater at OU A at the former Adak Air Complex (USGS 2005).

Both the Navy and USGS data indicate that natural attenuation of petroleum hydrocarbons, via biological and or chemical means, is ongoing at Adak. The USGS study (USGS 2005) and annual reports prepared for the 2001 through 2005 monitoring events document the evidence used and provide the rationale for this conclusion.

One of the three objectives in the ROD (Section 10.2.2 of the ROD) is to estimate the rate of natural attenuation to demonstrate achievement of endpoint criteria within 75 years. In the event that the natural attenuation estimate does not demonstrate that the 75-year time frame will be met, enhancement of monitored natural attenuation or use of alternative remedial actions will be evaluated and discussed with ADEC.

The CMP (U.S. Navy 2010a) specifies use of the Mann-Kendall test to indicate if a concentration trend is significantly different from zero (i.e., concentrations are decreasing or increasing). The Mann-Kendall test is applied to groundwater data sets from wells that demonstrate COC concentrations above cleanup levels and have at least four data points. The Sen's test is applied to data sets that demonstrate a Mann-Kendall trend that is decreasing. A Mann-Kendall statistic greater than zero indicates an increasing trend. A Mann-Kendall statistic less than zero indicates a decreasing trend. If the concentration of a chemical in groundwater is greater than the endpoint criterion at an individual well, and the Mann-Kendall test indicates a decreasing concentration trend, the Sen's test (Gilbert 1987) is to be used to calculate the slope (i.e., concentration change over time) of the trend line. This slope can then be used to estimate the time that the endpoint criterion at an individual well for an individual analyte may be achieved based on the existing data.

In some cases where a Sen's slope was not calculated in the 2010 annual report and a decreasing trend is apparent but not necessarily at an 80 percent confidence interval, a simple linear regression was used in this 5-year review to provide a very rough estimate of time for monitored natural attenuation to achieve endpoint criteria. No level of confidence is applied to the regressions or the estimated time to achieve the endpoint criterion. The results should be considered as a basic approach to see if the 75-year monitored natural attenuation time frame is still reasonable.

At the locations where data are sufficient to support an estimate, the following subsections indicate that analyte concentrations will decrease to the endpoint criteria well before the 75-year time frame expires, via natural attenuation processes. Where the available data are insufficient to draw conclusions, or where data trends indicate either stable or increasing concentrations, no estimation of the time to reach the endpoint criteria is possible.

The statistical approach specified in the CMP (U.S. Navy 2010a) was based on small data sets. The monitoring program has matured and the data sets are now larger. The programmatic conclusion is that consideration should be given to revising the statistical approach specified in the CMP to provide more meaningful interpretation of the data.

6.4.2 Antenna Field, USTs ANT-1, ANT-2, ANT-3, and ANT-4

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at one location (ANT-601) at the Antenna Field (USTs ANT-1, ANT-2, ANT-3, and ANT-4) from 2006 through 2010. Monitored natural attenuation is the remedy selected for this site (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples were collected from this well to evaluate groundwater quality relative to the endpoint criteria (for this site the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to verify that natural attenuation is occurring. Groundwater samples were collected from well ANT-601 for DRO and NAPs analyses. DRO analyses were conducted annually, and NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009. Since increasing trends in DRO concentrations were observed at this site in 2006, 2007, and 2008, the Navy performed a supplemental investigation of this site in 2010 to further characterize the extent of petroleum hydrocarbons in soil and groundwater and to determine if additional cleanup is required. The investigation included monitoring well installation to assess groundwater flow at the site. During this supplemental investigation, fourteen soil borings were sampled and six additional wells were installed at the site. Soil boring results are discussed in the Site Catalog included as Appendix A. All new well locations were dry. Therefore, only one groundwater sample was collected in July 2010 from the existing well, ANT-601, and this sample was analyzed for DRO.

The 2010 field observations resulted in a refined understanding of the site geography. It was long thought that ANT-601 was approximately 75 feet downgradient of the largest former UST excavation. However, the field observations were that ANT-601 is positioned immediately adjacent to the largest former UST excavation. Exploratory borings were completed to confirm this observation and significantly revise the site map (U.S. Navy 2010f). It has been very difficult to produce sufficient water volume from ANT-601 in the past to collect groundwater samples for analysis. With this refined understanding, the presence of groundwater in ANT-601 is likely a result of water buildup in the former UST excavation and not representative of an appreciable groundwater resource at the site. If that is the case, then the wells installed in 2010 will remain essentially dry.

The Site Catalog in Appendix A includes a figure that shows the location of monitoring well ANT-601 relative to potential source areas. Monitoring well ANT-601 is positioned immediately adjacent to the largest former UST excavation.

Analytical Results. DRO was reported in groundwater samples collected at well ANT-601 from 2006 to 2010 at concentrations ranging from 1,100 to 4,300 μg/L. Samples collected in September 2009 and July 2010 did not exceed the endpoint criterion of 1,500 μg/L. Samples collected in September 2006, September 2007, September 2008, and September 2010 exceeded the endpoint criterion. The highest DRO concentration was measured in the 2006 sample from this well.

As discussed above, DRO concentrations at location ANT-601 exhibited increasing trends in 2006, 2007, and 2008. As a result, the supplemental investigation was performed. DRO concentrations measured in September 2009 (annual groundwater monitoring) and July 2010 (supplemental investigation) were 1,400 and 1,100 μg/L, respectively, which are both below the endpoint criterion. Although the concentration at location ANT-601 in September 2010 increased to 2,100 μg/L, the results of the supplemental investigation suggest that the groundwater has a limited extent at the site. Furthermore, concentrations in ANT-601 in 2009 and 2010 did not exhibit a statistically significant increasing trend.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the Antenna Field site (USTs ANT-1, ANT-2, ANT-3, and ANT-4). Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. Free product was not detected at this site during this 5-year review period.

Future Monitoring Recommendations

Although DRO concentrations in samples collected from ANT-601 were above the endpoint criterion, which is based on the ADEC cleanup level, in September 2006, September 2007, September 2008, and September 2010, monitoring should be discontinued at this site. The results of the supplemental investigation indicate that groundwater in ANT-601 is likely a result of water buildup in the former UST excavation and not representative of an appreciable groundwater resource at the site. Furthermore, ADEC concurs with discontinuing monitoring, because of the inconsequential volume of groundwater at this site.

6.4.3 Former Power Plant, Building T-1451

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at locations 01-118, 01-150, 01-151, and E-701 at the Former Power Plant, Building T-1451 site from 2006 through 2010. Monitored natural attenuation is the remedy selected for this site (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples were collected from these wells to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to verify that natural attenuation is occurring.

Background monitoring for DRO, GRO, residual-range organics (RRO), BTEX, and NAPs was initiated at well E-701 during 2002. Based on results through 2004, ADEC and EPA concurred with discontinuing DRO, GRO, RRO, and BTEX monitoring at well E-701. Annual NAPs monitoring at well E-701 was performed from 2006 through 2009 to document background conditions. After the 2009 monitoring event, the frequency of NAPs monitoring in E-701 was decreased to once every 5 years.

Monitoring of well 01-118 was initiated in 1999, and monitoring of wells 01-150 and 01-151 was initiated in 2003. From 2006 through 2010, groundwater samples have been collected from each of these three wells for DRO analysis. NAPs monitoring is conducted every 5 years in these three wells, with the most recent sampling event occurring in 2009. In addition, the samples collected from 01-118 were analyzed for RRO from 2006 through 2008, and samples collected from 01-151 were analyzed for semivolatile organic compounds (SVOCs) and BTEX (to determine concentrations of total aromatic hydrocarbons [TAH] and total aqueous hydrocarbons [TAqH]) from 2007 through 2010. Analysis of samples collected from 01-118 for RRO was discontinued after the 2008 sampling event, because concentrations were below the endpoint criterion for two sampling events and trend analysis showed a decreasing trend. The 2006 groundwater monitoring report recommended analyzing the sample collected from 01-151 for TAH and TAqH as a one-time event, because of its proximity to surface water and because the concentration of DRO in this well exceeded the endpoint criterion. Because the concentration of TAqH exceeded surface water quality criteria in 2007, monitoring for these two parameters continued through 2010.

The 2008 groundwater monitoring report recommended that shoreline inspections of East Canal between SWMU 62, New Housing Fuel Leak Area and South of Runway 18-36 Area be conducted annually, because an oil seep is located downgradient of this site in East Canal.

Furthermore, the 2009 groundwater monitoring report recommended that one surface water (analyzed for DRO, TAH, and TAqH) and one sediment sample (analyzed for DRO and PAHs) be collected annually in East Canal downstream of boom 9 (location NL-08). These activities were implemented in 2009 and 2010, respectively.

Since increasing trends in DRO concentrations were observed at wells 01-150 and 01-151 and visible petroleum contamination has been observed in East Canal at this site in 2007, 2008, and 2009, options to augment the existing remedy at this site were evaluated through an engineering evaluation/cost analysis (EE/CA). Additional data were collected in 2009 during an additional site investigation and in 2010 during a supplemental investigation to assess impacts to surface water and sediment in East Canal and improve delineation of the extent of petroleum-impacted soils, in support of the EE/CA. During the 2009 investigation, four surface water and sediment locations within East Canal were sampled. The location immediately upgradient of boom 9 (EC-02) was sampled to assess whether SWMU 62 is impacting East Canal in the vicinity of the Former Power Plant, Building T-1451 site. One location adjacent to the seep at boom 9 (EC-03) was sampled to characterize seep contaminants. Two locations downgradient of boom 9 were sampled to determine the downgradient edge of the seep (EC-04) and to determine if contaminants are entering the transfer pipe to West Canal (EC-05). The surface water samples were analyzed for DRO, GRO, BTEX, and PAHs, and the sediment samples were analyzed for RRO, DRO, GRO, and BTEX. In addition, nine subsurface soil borings were advanced upland of the visual petroleum contamination at the boom 9 seep. No sample was collected from these borings, but materials from the borings were visually inspected for the presence of free product. During the 2010 supplemental investigation, 15 soil borings were sampled. Soil boring results are discussed in the Site Catalog attached as Appendix A. No groundwater sampling was performed as part of these additional investigations.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells and the surface water and sediment sampling location NL-08 relative to potential source areas at the Former Power Plant, Building T-1415 site and the downgradient surface water body, East Canal of the airport ditch system. Monitoring wells 01-118, 01-150, and 01-151 are located within the dissolved petroleum plume downgradient from the former petroleum-release area at this site and upgradient from the East Canal. Monitoring well E-701 is located approximately 400 feet south from the former petroleum release area. This well is located beyond the dissolved-petroleum plume and has been identified as a background monitoring location for the downtown area on Adak Island. NL-08 is located within East Canal downgradient of the site. The 2009 surface water and sediment sampling locations are included in the technical memorandum for this additional sampling activity (U.S. Navy 2010b).

Analytical Results. DRO was reported in groundwater samples collected at well 01-118 from 2006 to 2010 at concentrations ranging from 7,000 to 9,300 μg/L, and RRO was reported at concentrations ranging from undetected (with a reporting limit of 2,000 μg/L) to 890 μg/L. The highest DRO and RRO concentrations at well 01-118 were measured in the 2008 sample. Concentrations of DRO in samples collected from well 01-118 from 2006 through 2010 all exceeded the endpoint criterion of 1,500 µg/L. Detected concentrations of RRO in this well for this time period did not exceed the endpoint criterion of 1,100 µg/L.

DRO was reported in groundwater samples collected at well 01-150 from 2006 to 2010 at concentrations ranging from 1,100 to 3,400 µg/L. The highest DRO concentration at this well was measured in the 2008 sample. This value exceeded the endpoint criterion of 1,500 µg/L. All other DRO concentrations in this well for this 5-year review period were below the endpoint criterion. DRO was reported in the downgradient well 01-151 from 2006 through 2010 at concentrations ranging from 3,000 to 4,600 µg/L. The highest DRO concentration at well 01-151 was measured in the 2010 sample. TAH was reported in well 01-150 from 2007 through 2010 at concentrations ranging from 4.56 to 6.76 µg/L, and TAqH was reported at concentrations ranging from 19.1 to 35.2 µg/L. The highest TAH and TAqH concentrations were measured in the 2009 sample. Concentrations of DRO in samples collected from well 01-151 from 2006 through 2010 all exceeded the endpoint criterion of 1,500 µg/L, and concentrations of TAqH in samples collected from this well from 2007 through 2010 exceeded the ADEC surface water quality standard of 15 µg/L. TAH concentrations were below the ADEC surface water quality standard of 10 µg/L.

DRO was reported in surface water samples collected in 2009 at a concentrations ranging from 160 to 310 µg/L. No ADEC surface water quality criterion exists for DRO, but the concentration detected in the surface water sample collected at EC-03 adjacent to the seep is greater than the endpoint criterion established for the South of Runway 18 36 Area (250 µg/L). All other DRO concentrations were less than the endpoint criterion. GRO was reported in surface water samples collected in 2009 at a concentrations ranging from 61 to 220 µg/L. No ADEC surface water quality criterion exists for GRO, but the concentration detected in the surface water sample collected at EC-05 near the transfer pipe to West Canal is greater than the endpoint criterion established for the South of Runway 18 36 Area (114 µg/L). Indeno (1,2,3-cd) pyrene was not detected in the surface water samples collected in 2009. TAH was reported in the 2009 surface water samples at concentrations ranging from 3.69 to 20.55 µg/L, and TAqH was reported at concentrations ranging from 3.75 to 21.54 µg/L. TAH and TAqH concentrations were below the ADEC surface water quality standards of 10 and 15 µg/L, respectively, in all surface water samples except the sample collected from EC-05. (Note that GRO, TAH, and TAqH concentrations at EC-03, which is adjacent to the site, and EC-04, which is just downgradient of the site, did not exceed endpoint criteria or surface water quality criteria.)

DRO was reported in the surface water sample collected at NL-08 in 2010 at a concentration of 240 µg/L. TAH and TAqH were reported in the 2010 surface water sample at concentrations of 6.2 and 6.3 µg/L, respectively. No ADEC surface water quality criterion exists for DRO, but the concentration detected in the surface water is less than the endpoint criterion established for the

South of Runway 18-36 Area (250 μg/L). Both the TAH and TAqH concentrations are below the ADEC surface water quality standards.

RRO was reported in sediment samples collected in 2009 at concentrations ranging from 100 to 620 mg/kg. DRO was reported in sediment samples collected in 2009 at concentrations ranging from 78 to 660 mg/kg. GRO and BTEX were not detected in the sediment samples collected from locations EC-02, EC-03, and EC-04, and benzene and toluene were not detected in the sediment sample collected from location EC-05. GRO, ethylbenzene, and total xylenes were detected in the sediment sample collected from EC-05 at concentrations of 76, 0.11, and 0.326 mg/kg, respectively. ADEC has not established cleanup levels for specific compounds in sediment. Therefore, sample results for DRO and GRO were compared to the South of Runway 18-36 Area endpoint criteria. The DRO concentration was above the South of Runway 18-36 endpoint criterion of 90.6 mg/kg in the samples collected from locations EC-02, EC-04, and EC-05. The GRO concentration was above the South of Runway 18-36 endpoint criterion of 12.2 mg/kg in the samples collected from location EC-05. (Note that concentrations at EC-03, which is adjacent to the site, and EC-04, which is just downgradient of the site, did not exceed endpoint criterion.) Endpoint criteria were not established for RRO or BTEX at the South of Runway 18-36 Area.

DRO was reported in the sediment sample collected at NL-08 in 2010 at a concentration of 51 mg/kg. Eight PAHs were reported in the 2010 sediment sample at concentrations ranging from 1.1 to 1.7 μg/kg. ADEC has not established cleanup levels for specific compounds in sediment. Therefore, sample results for DRO were compared to South of Runway 18-36 Area endpoint criterion, and detected PAH compounds were compared to the most stringent ADEC soil cleanup levels. The DRO concentration was below the South of Runway 18-36 Area endpoint criterion of 90.6 mg/kg, and the detected PAH concentrations were all well below the most stringent ADEC soil cleanup levels. A visual inspection of the shoreline of East Canal downgradient of the site was performed in 2009 and 2010. In 2009 and 2010, inspectors noted the presence of a seep downgradient of the Former Power Plant, Building T-1451 site, a petroleum hydrocarbon odor, and a sheen on the water. Petroleum is seeping out of ground at boom 8, and sheen and petroleum-stained sediments were observed along the entire length of East Canal.

DRO concentrations at well 01-118 generally exhibited a decreasing trend from 2006 through 2010. As discussed above, DRO concentrations at location 01-151 exhibited increasing trends in 2006 through 2010. DRO concentrations at location 01-150 were below endpoint criterion for the last two years of monitoring. Therefore, a trend analysis was not performed for this well in the 2010 annual groundwater monitoring report. Because of the increasing trends in DRO concentrations in 2007, 2008, and 2009 at wells 01-150 and 01-151 and because visible petroleum contamination has been observed in East Canal at this site, options to augment the existing remedy at this site were evaluated through an EE/CA and a supplemental investigation was performed in 2010.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the Former Power Plant, Building T-1451 site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 through 2010” located in Appendix C. The following summarizes the significant product thickness data for the Former Power Plant, Building T-1451 site.

Between September 1999 and September 2010, monitoring wells within the vicinity of the Former Power Plant, Building T-1451 have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. Between October 2005 and September 2010, four monitoring wells within the vicinity of the Former Power Plant, Building T-1451 site have been gauged for the presence of free product. Free product was detected once in well 01-118 in September 2009, at a thickness of 0.01 foot. It was not detected in 2010.

Natural Attenuation Assessment

Sulfate concentrations (0.16 to 0.07 mg/L) for wells within the contaminant plume are depleted compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (5 to 50 mg/L) are elevated, compared to background (0 mg/L), indicating the occurrence of iron reduction. Strong evidence of methanogenesis is observed at the Former Power Plant site, as demonstrated by elevated methane concentrations in plume and downgradient wells ranging from 4,600 to 12,000 μg/L compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates anaerobic natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen’s trend evaluation (U.S. Navy 2010e) are summarized in Table 6-1. The DRO concentrations in samples from well 01-118 are decreasing. DRO concentrations in samples from well 01-151 exhibit an increasing trend. Using the median and lower slope limits and the 2010 DRO concentration in groundwater at well 01-118, DRO could reach the endpoint criterion in 2016 to 2024, if the 2010 trend continues. DRO concentrations were increasing in samples from wells 01-150 and 01-151. So an estimated time to achieve the endpoint criterion is not appropriate.

Future Monitoring Recommendations

DRO concentrations in two of the three wells (01-118 and 01-151) were consistently above the endpoint criterion, which is based on the ADEC cleanup level. The DRO concentrations in one of the wells (01-150) exceeded the endpoint criterion in 2008. Furthermore, DRO concentrations exhibited an increasing trend in well 01-151. The TAqH concentrations in well 01-151, which is located adjacent to East Canal, were consistently above the ADEC surface water quality standard.

The concentration of DRO in surface water collected at EC-03 in 2009 adjacent to the site exceeded the South of Runway 18-36 Area endpoint criterion. However, DRO concentrations did not exceed the South of Runway 18-36 Area endpoint criterion in surface water samples collected in 2009 downgradient of the site (EC-04 and EC-05). GRO, TAH, and TAqH concentrations in the surface water sample collected from EC-05 in 2009 were above either the ADEC surface water quality criteria or South of Runway 18-36 Area endpoint criteria. As indicated above, the exceedance of the GRO endpoint criterion and the exceedance of TAH and TAqH surface water quality criteria at EC-05 are most likely unrelated to the Former Power Plant, Building T-1451 site, because concentrations at EC-03, which is adjacent to the site, and EC-04, which is just downgradient of the site, did not exceed endpoint criteria or surface water quality criteria. The concentration of DRO in sediment samples collected in 2009 at EC-02, EC-04, and EC-05 exceeded the South of Runway 18-36 Area endpoint criterion, and the concentration of GRO in the sediment sample collected in 2009 at EC-05 exceeded the South of Runway 18-36 Area endpoint criterion. As indicated above, the exceedance of the GRO endpoint criterion at EC-05 is most likely unrelated to the Former Power Plant, T-1451 site, because concentrations at EC-03, which is adjacent to the site, and EC-04, which is just downgradient of the site, did not exceed endpoint criteria. No exceedance of ADEC surface water quality criteria or South of Runway 18-36 Area endpoint criteria was detected in the surface water sample collected at NL-08 in 2010, and no exceedance of ADEC soil cleanup levels or South of Runway 18-36 Area endpoint criteria was detected in the sediment sample collected at this same location. However, the 2010 visual inspection noted the presence of a seep. In addition, a petroleum hydrocarbon odor, a sheen on the water, and petroleum-stained sediments were observed along the entire length of East Canal.

Based on the exceedances of the South of Runway 18-36 Area surface water and sediment endpoint criteria in 2009 and the presence of a free-product seep at the site, additional sediment and surface water sampling and an evaluation of site-specific risks are recommended for this site. This additional evaluation is recommended because the risk-based endpoint criteria for the South of Runway 18-36 Area may not be representative of risks associated with the Former Power

Plant, T-1451 site. Additional investigation of the GRO, TAH, and TAqH exceedances in surface water and the GRO exceedance in sediment at EC-05 is also recommended. Furthermore, annual groundwater, surface water, and sediment monitoring should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), and visual inspection of East Canal should also be continued.

6.4.4 GCI Compound, UST GCI-1

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the GCI Compound, UST GCI-1 site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected monitored natural attenuation with ICs as the final remedy for this site (U.S. Navy and ADEC 2005a). Groundwater samples were collected at this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to evaluate NAPs.

Monitoring at well 04-701 was initiated in 1999, and monitoring at 04-100 was initiated in 2003. Monitoring of wells 04-202 and 04-210 was initiated in 2005 as part of final remedy implementation. Monitoring of wells 04-204, 04-213, MRP-MW9 was initiated in 2006. Well 04-204 was added to assess the presence or absence of an upgradient source based on a recommendation made in the 2005 groundwater monitoring report, and wells 04-213 and MRP-MW9 were added based on a request by ADEC for a one time sampling event in these wells. Since concentrations in MRP-MW9 were well below endpoint criteria, monitoring was discontinued in this well following the 2006 sampling event. However, concentrations in the sample collected at 04-213 were above the endpoint criteria. Therefore, continued annual sampling of this well was performed. The Navy has conducted annual groundwater monitoring at five locations (04-100, 04-202, 04-204, 04-210, and 04-213) from 2006 through 2010. The Navy has also conducted groundwater monitoring at 04-701 in even years. The frequency of monitoring was reduced at 04-701, because GRO and BTEX have not migrated in groundwater to this downgradient monitoring point at concentrations greater than endpoint criteria.

Groundwater samples have been collected from each well where sampling was planned for DRO, GRO, benzene, BTEX, and/or NAPs analyses. A sample was not collected from well 04-202 in 2006 and 2007, because free product was present in the well. In 2006, samples were collected from all wells except 04-202, and analyzed for GRO and BTEX. In addition, groundwater samples collected from well 04-100, 04-204, 04-213, and MRP-MW9 were also analyzed for DRO. In 2007, samples were collected from well 04-100, 04-204, 04-210, and 04-213, and analyzed for GRO. In addition, samples collected from well 04-100, 04-204, and 04-210 were analyzed for BTEX, and the sample collected from 04-100 was analyzed for DRO. In 2008, samples were collected from wells 04-100, 04-202, 04-204, 04-210, 04-213, and 04-701, and analyzed for GRO. In addition, samples collected from well 04-100, 04-202, 04-204, and 04-210 were analyzed for BTEX, the sample collected from 04-100 was analyzed for DRO, and the sample collected from 04-701 was analyzed for benzene. In 2009, samples at all wells where sampling was planned were analyzed for NAPs. In addition, samples collected from well 04-100, 04-202, 04-204, and 04-210 were analyzed for GRO and benzene, and the sample collected from 04-213 was analyzed for GRO. Finally, in 2010, samples at all wells where sampling was planned were analyzed for GRO. In addition, samples collected from well 04-100, 04-202, and 04-701 were analyzed for benzene, and the sample collected from 04-204 was analyzed for DRO.

Monitoring for DRO in well 04-204 was discontinued in 2007, because DRO was not detected in this well above the endpoint criterion. Monitoring for DRO and BTEX in well 04-213 was discontinued in 2007, because ADEC requested one time monitoring in 2006 and these constituents were not detected above their respective endpoint criteria. However, monitoring GRO in this well was continued, because the concentration exceeded the endpoint criterion. The 2008 groundwater monitoring report recommended discontinuing DRO, toluene, ethylbenzene, and xylenes at 04-100 and toluene, ethylbenzene, and xylenes at 04-202, 04-204, 04-210, and 04-701, because no exceedance of endpoint criteria for DRO, toluene, ethylbenzene, and total xylenes had been observed since monitoring commenced in 2004. Therefore, monitoring for these constituents in these wells was discontinued. A one-time sampling of DRO in well 04-204 was conducted in 2010.

The Site Catalog in Appendix A includes a figure that shows the location of these monitoring wells relative to potential source areas at the GCI Compound site. This figure is accessed through the “Current Monitoring” link for this site in the Site Catalog. Wells 04-202 and 04-210 are located along the centerline of the dissolved plume, with 04-202 near the former source area and 04-210 located approximately 180 feet downgradient. Well 04-701 is located near the leading edge of the plume approximately 380 feet downgradient of 04-202, and well 04-100 is located south of the plume centerline approximately 150 feet southeast of well 04-202. Wells MRP-MW9 and 04-203 are located upgradient of the plume, approximately 140 feet northeast and 50 feet southeast of the former UST location, respectively. Well 04-213 is located approximately 90 feet south of the former UST, cross gradient to the plume.

Analytical Results. GRO and BTEX have not been measured at concentrations greater than their endpoint criteria or practical quantitation limits (PQLs) in groundwater samples collected from wells 04-204, 04-701, and MRP-MW9 during the 2006 through 2010 time period. In addition, DRO was not detected at a concentration greater than its endpoint criterion in the groundwater samples collected from 04-204 and MRP-MW9 in 2006. DRO was detected at a concentration greater than its endpoint criterion in the groundwater sample collected from

04-204 in 2010. Furthermore, concentrations of GRO at 04-701, which is located at the downgradient edge of the plume, appear to be generally increasing.

GRO was reported in groundwater samples collected at well 04-100 from 2006 to 2010 at concentrations ranging from 3,100 to 5,200 μg/L. The highest GRO concentration was measured in the 2006 groundwater sample. The GRO concentrations have all been greater than the endpoint criterion of 1,300 μg/L. DRO and BTEX constituents have not been measured at concentrations greater than their endpoint criteria or PQLs in groundwater samples from this well.

GRO was reported in groundwater samples collected at well 04-202 from 2006 to 2010 at concentrations ranging from 3,300 to 5,200 μg/L. The highest GRO concentration was measured in the 2009 groundwater sample. The GRO concentrations have all been greater than the endpoint criterion of 1,300 μg/L. BTEX constituents have not been measured at concentrations greater than their endpoint criteria or PQLs in groundwater samples from this well.

GRO and benzene were reported in groundwater samples collected at well 04-210 from 2006 to 2010 at concentrations ranging from 4,800 to 8,300 μg/L and undetected (at a detection limit of 1 μg/L) to 6.3 μg/L, respectively. The highest GRO and benzene concentrations were measured in the 2007 groundwater sample. The GRO concentrations have all been greater than the endpoint criterion of 1,300 μg/L. Benzene was measured only once at a concentration slightly above the endpoint criterion of 5 μg/L. Toluene, ethylbenzene, and total xylenes were not measured in the groundwater sample from this well at concentrations greater than their respective endpoint criteria.

GRO was reported in groundwater samples collected at well 04-213 from 2006 to 2010 at concentrations ranging from 3,300 to 6,900 μg/L. The highest GRO concentration was measured in the 2008 groundwater sample. The GRO concentrations have all been greater than the endpoint criterion of 1,300 μg/L. DRO and BTEX constituents were not measured at concentrations greater than their endpoint criteria or PQLs in the groundwater sample collected from this well in 2006.

GRO concentrations at well 04-202, 04-210, and 04-213 have generally been stable from 2006 through 2010. GRO concentrations at well 04-100 exhibited a decreasing trend. However, the trend was not statistically significant. Benzene concentrations during the last three monitoring events have been below the endpoint criterion, so no trend evaluation was performed for this compound. Toluene, ethylbenzene, and xylenes have not been monitored since 2008, because concentrations were below their respective endpoint criteria. DRO has not been monitored since 2008, except for a one-time monitoring event in well 04-204 in 2010.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the GCI Compound, UST GCI-1 site. Although free-product recovery is not a component of the final remedy for this site (U.S. Navy and ADEC 2005a), monthly monitoring and free-product recovery were performed at one well (04-202) based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness Summary 2006 through 2010.” The following summarizes the significant product thickness data for the GCI Compound, UST GCI-1 site.

Between September 1996 and September 2010, monitoring wells within the vicinity of the GCI Compound have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, one well (04-202) was gauged monthly from May 2007 through May 2010, concurrently with free-product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. Between October 2005 and September 2010, free product has been detected in three wells, 04-202, 04-203, and 04-204, at the site. The maximum measured free-product thickness in well 04-203 was 0.11 foot, measured in September 2007. The maximum measured free-product thickness in well 04-202 was 0.04 foot, measured in September of 2006 and 2007, and the maximum free-product thickness in well 04-204 was 0.01 foot, measured in September of 2009. Free product has not been detected at this site since September 2009.

Free-Product Recovery. Interim free-product recovery at the GCI Compound was discontinued in November 1997, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the draft free-product recovery closure report (U.S. Navy 2000b). In addition, free-product recovery is not a component of the final remedy for this site. However, in May of 2007, ADEC requested that the Navy resume free-product recovery at selected wells, including well 04-202, as discussed above. Free-product recovery was to be performed if the measured thickness is greater than 0.5 foot in a 2-inch well and greater than 0.1 foot in a 4- or 6-inch well. No free-product recovery occurred in well 04-202 during monthly free-product recovery activities, because thicknesses greater than 0.5 foot were not measured in this 2-inch well. Monthly free-product recovery activities at well 04-202 were discontinued in June of 2010, because free-product had not been measured in that well since September of 2007. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 through 2010. "

Natural Attenuation Assessment

Sulfate concentrations (0.25 to 0.10 mg/L) for plume and downgradient wells are depleted compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (30 to 50 mg/L) are elevated compared to background (0 mg/L), strongly indicating the occurrence of iron reduction. Strong evidence of methanogenesis is observed at the GCI Compound site, as demonstrated by elevated methane concentrations in site wells ranging from 750 to 2,300 μg/L, compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual monitoring report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation (U.S. Navy 2011a) are summarized in Table 6-1. A decreasing trend was identified for GRO concentrations in samples from well 04-100. No trends were identified using the Mann-Kendall test for GRO in groundwater from wells 04-210, and 04-213. The Mann-Kendall test was not applied to GRO results for samples from wells 04-202 and 04-204.

The Sen's slope was calculated for GRO concentrations in groundwater samples over time from well 04-100 in the 2010 annual monitoring report (U.S. Navy 2011a). Using the median and lower slope limits and the 2010 GRO concentration in groundwater at well 04-100, GRO could reach the endpoint criterion in 2013 to 2022, if the 2010 trend continues. Simple linear regression was applied to GRO results for 04-100 and 04-213, because GRO concentrations in samples from these two wells do show a general decreasing trend. No level of confidence is applied to the regression. Applying the slope of the regressed line to the 2010 concentration provides a very rough estimate for time to achieve the endpoint criterion if the observed trend continues. If the current trends continue, GRO concentrations in groundwater from wells 04-100 and 04-113 could reach the endpoint criterion in 2017 and 2018, respectively.

Future Monitoring Recommendations

GRO concentrations remain above the endpoint criterion, which is based on the ADEC cleanup level, along the centerline of the plume (04-100 and 04-202) and in one well to the south of the main plume (04-213). In addition, product was observed in three wells located near the source area (04-202, 04-203, and 04-204). However, free product has not been detected at the site since September of 2009. GRO concentrations are not greater than the endpoint criterion at the surface water protection monitoring point (04-701). Although DRO, GRO, and BTEX concentrations at well 04-204 from 2006 through 2010 have been well below their respective endpoint criteria, free product was detected in this well in September of 2009. Annual groundwater monitoring should be continued at the GCI Compound, UST GCI-1 site as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), with one addition. Monitoring of DRO in well 04-204 should be continued, because the concentration in the sample collected in 2010 exceeded the endpoint criterion.

6.4.5 Housing Area (Arctic Acres)

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the Housing Area (Arctic Acres) from 2006 through 2010. Monitored natural attenuation is the ROD-specified remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples were collected at this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to evaluate NAPs.

Groundwater samples were collected from wells 03-416, 03-420, 03-421, 03-422, 03-890, AA-01, AA-02 and AA-06 for DRO and NAPs analyses. Samples were not collected from wells 03-421 and 03-890 in 2006, 2007, and 2008, because of the presence of free product. DRO analyses were conducted annually at 03-420 through 2009, during even years only at 03-416 and AA-01, twice in 2009 and 2010 at wells 03-421 and 03-890, and once in 2010 at 03-422, AA-02, and AA-06. NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009. NAPs were not monitored in wells 03-422, AA-02, and AA-06 from 2006 through 2010. Monitoring of well AA-01 was discontinued after the 2006 sampling event, because concentrations were below endpoint criteria for two consecutive sampling events. After the 2009 sampling event, DRO analyses at 03-420 was changed to every other year (odd years only), because a statistically significantly decreasing trend in DRO concentration was observed in this well, exceedances pose no threat to downgradient receptors, and NAPs data indicate that natural attenuation is progressing. The Site Catalog in Appendix A includes a figure that shows the location of these monitoring wells at the Housing Area (Arctic Acres).

Analytical Results. DRO was reported in groundwater samples collected at well 03-416 from 2006 to 2010 at concentrations ranging from 1,300 to 1,500 μg/L. The highest DRO concentration was measured in the 2006 sample from this well. DRO was reported in the groundwater sample collected in 2006 from well AA-01 at a concentration of 660 μg/L. Samples collected at these two locations did not exceed the endpoint criterion of 1,500 μg/L. DRO was reported in groundwater samples collected in 2010 at wells 03-422, AA-02, and AA-06 at concentrations of 120, 98, and 48 μg/L, respectively. Samples collected in 2010 at these three locations did not exceed the endpoint criterion.

DRO was reported in groundwater samples collected at well 03-420 from 2006 to 2010 at concentrations ranging from 2,200 to 3,800 μg/L. The highest DRO concentration was measured in the 2006 sample from this well. The DRO concentrations in this well have all been greater than the endpoint criterion of 1,500 μg/L. DRO was reported in groundwater samples collected at well 03-421 in 2009 and 2010 at concentrations of 15,000 and 3,800 μg/L, respectively. DRO was reported in groundwater samples collected at well 03-890 in 2009 and 2010 at concentrations of 44,000 and 10,000 μg/L, respectively. These values are greater than the endpoint criterion.

DRO concentrations at wells 03-421 have generally been stable from 2006 through 2010. DRO concentrations at wells 03-420 and 03-890 exhibited a decreasing trend. Trend evaluations were not performed for 03-416 and 03-890, because concentrations of DRO were less than the endpoint criterion during the last two monitoring events at this location.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the Housing Area (Arctic Acres) site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 through 2010” located in Appendix C. The following summarizes the significant product thickness data for the Housing Area (Arctic Acres) site.

Between September 1996 and September 2010, monitoring wells within the vicinity of the Housing Area (Arctic Acres) have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. Between October 2005 and September 2010, free product has been detected in two wells, 03-421 and 03-890, at the site during three annual groundwater monitoring events. The maximum measured free-product thickness in well 03-421 was 0.29 feet, measured in September 2007. The maximum measured free-product thickness in well 03-890 was 0.82 foot, measured in September of 2006. Free product has not been detected during the last two annual groundwater monitoring events.

Free-Product Recovery. Although free-product recovery is not a component of the final remedy for this site and is not required by the ROD or the CMP, free-product recovery was performed during two annual groundwater monitoring events. Free product was detected in two wells at Housing Area (Arctic Acres) between October 2005 and September 2010 during three annual groundwater monitoring events (see paragraph above). Both of these wells are 2-inch-diameter wells. Free product was recovered from well 03-890 in September of 2006 and in September of 2008, because the free-product thickness was greater than 0.5 foot, which is the minimum thickness specified in the CMP for free-product recovery in 2-inch diameter wells at SA 80, Steam Plant 4, USTs 27089 and 27090; SA 88, P-70 Energy Generator, UST 10578; SWMU 58/SA 73, Heating Plant 6; SWMU 17, Power Plant No. 3; and Tanker Shed, UST 42494. Note that the CMP did not require free-product recovery for the Housing Area (Arctic Acres). Free product was not measured at thicknesses greater than 0.5 foot in well 03-421 during any of the annual groundwater monitoring events during this same time period. One-half gallon of free product was recovered in 2006 and 1.2 gallons of free product was recovered in 2008. Therefore, a total of 1.7 gallons of free product was recovered from the Housing Area (Arctic Acres) site between October 2005 and September 2010. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 through 2010."

Natural Attenuation Assessment

Sulfate concentrations (0.20 [nondetected] to 1.82 mg/L) for plume and downgradient wells are depleted compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (12.5 to 45 mg/L) are elevated compared to background (0 mg/L), indicating the occurrence of iron reduction. Evidence of methanogenesis is observed at the Housing Area (Arctic Acres) site, as demonstrated by elevated methane concentrations in three of the four site wells (220 to 2,000 μg/L), compared to background (an estimated 0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation are summarized in Table 6-1 (U.S. Navy 2010e and 2011a). Decreasing trends were identified using the Mann-Kendall test for DRO in groundwater from wells 03-421 and 03-890. No trend was identified for 03-421. The Mann-Kendall test was not applied to results from wells 03-416, 03-422, AA-02, and AA-06.

The Sen's slope was calculated for DRO concentrations in groundwater samples over time from well 03-420 in the 2009 annual report (U.S. Navy 2010e and 2011a). Using the median and lower slope limits and the 2010 DRO concentration in groundwater at well 03-420, DRO could reach the endpoint criterion in 2012 or 2013, if the 2009 trend continues. Data were not sufficient for statistical estimation of endpoint achievement at the remaining site wells, or DRO concentrations are already below the endpoint.

Future Monitoring Recommendations

Because DRO concentrations remain above the endpoint criterion, which is based on the ADEC cleanup level, in groundwater samples collected from wells 03-421 and 03-890 and because of the past observance of free product in these wells, monitoring should continue at these wells as prescribed in the CMP, Revision 4 (U.S. Navy 2010a). Monitoring should also be continued at well 03-420 as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), because concentrations in this well remain above endpoint criteria. Only one round of monitoring was performed at wells 03-422, AA-02, and AA-06 during this last review period because they were sampled in 2010 in support of the 5-year review. The results of the sampling at these wells confirm that contamination has not migrated downgradient to these locations. Sampling at these three wells will be performed annually, as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), because petroleum compounds continue to be detected at concentrations greater than endpoint criteria at wells upgradient of these three wells. The concentration of DRO in samples collected at well 03-416 during this 5-year review period did not exceed the endpoint criterion. Therefore, it is recommended that monitoring at this location be discontinued.

Free-product monitoring should be continued in conjunction with annual groundwater monitoring. However, free-product recovery is not required by the ROD or the CMP if free product is detected in the site wells during the annual groundwater monitoring. Therefore, all free-product recovery activities should be discontinued at this site.

6.4.6 Kuluk Bay

Data Review

Data Collection During This 5-Year Review Period. The Navy has conducted marine tissue monitoring in Kuluk Bay since 1999. Initially, this monitoring was conducted annually in accordance with the OU A ROD. In 2003, the 5-year marine tissue monitoring program required by the OU A ROD was completed. The 2003 technical memorandum for marine monitoring recommended continued sampling for rock sole and blue mussel from Kuluk Bay at a frequency of every other year through the next 5-year review period to evaluate the changes in total PCB concentrations. Therefore, the Navy has conducted marine tissue monitoring at Kuluk Bay every odd year from 2004 through 2010 (U.S. Navy 2010d). Marine tissue monitoring and ICs is the ROD-selected remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Blue mussel and rock sole tissue samples are collected from Kuluk Bay to document the temporal change in PCB concentrations in mussels and fish in Kuluk Bay and to determine the date for rescinding institutional controls advising subsistence and commercial seafood harvesters of the potential risk associated with consumption of certain species of fish and shellfish from Kuluk Bay. Marine tissue samples have been analyzed for PCB cogeners, lipid analysis, and moisture content.

Analytical Results. The mean concentration of PCBs in blue mussel tissue in 2007 and 2009 was 15 and 18.1 µg/kg, respectively. The mean concentration in rock sole tissue in 2007 and 2009 was 12.1 and 6.4 µg/kg, respectively. During this 5-year review period, the mean concentration of PCBs in blue mussel tissue was below the risk-based action level of 31 µg/kg, but concentrations were slightly higher in 2009 than 2007. The mean concentration of PCBs in rock sole tissue was above the risk-based action level of 6.5 µg/kg in 2007, but dropped below the action level in 2009. Analytical data for marine tissue samples collected in Kuluk Bay are included in Appendix B. Historical data and data from the current 5-year review period are included in this table.

Mean total PCB concentrations in blue mussel tissue from Kuluk Bay ranged from 4.07 µg/kg in 1999 to 32.0 µg/kg in 2005 (Appendix B). Mean total PCB concentrations for each year, with the exception of 2005, are below the risk-based action level of 31 µg/kg. PCB tissue concentrations in blue mussel collected from Kuluk Bay for the period 1999 through 2009 were plotted for best fit regression and trendline analysis. This analysis determined that there was a statistically significant increasing trend in PCB concentrations (U.S. Navy 2010d).

Mean total PCB concentrations in rock sole tissue from Kuluk Bay ranged from 4.94 µg/kg in 2002 to 32.4 µg/kg in 1996 (Appendix B). The mean concentration for each year has not consistently increased or decreased over time, but has fluctuated. The mean total PCB concentration of the samples collected from 1996 through 2009, with the exception of samples collected in 2000, 2002, and 2009, was above the risk-based action level of 6.5 µg/kg. PCB tissue concentrations in rock sole collected from Kuluk Bay from 1999 through 2009 were normally distributed and were plotted for best fit regression and trend-line analysis. No statistically significant trend in the PCB concentrations was found (U.S. Navy 2010d).

Future Monitoring Recommendations

Based on the assessment of the marine tissue monitoring data collected through 2009, continued collection of blue mussel and rock sole in Kuluk Bay every other year is recommended.

6.4.7 NMCB Building Area, T-1416 Expanded Area

Data Review

Data Collection During This 5-Year Review Period. The Navy conducted annual groundwater monitoring at the NMCB Building Area, T-1416 Expanded Area site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected free-product recovery, monitored natural attenuation, and ICs as the final remedy for this site (U.S. Navy and ADEC 2006a). In addition, the decision document specified that six new wells would be installed at the site for surface water protection monitoring, natural attenuation monitoring and free-product recovery; soil samples would be collected during the drilling of five of the six wells; and annual inspection of the Sweeper Cove shoreline for seeps and sheens. Results of this additional soil sampling are discussed in the Site Catalog in Appendix A. Groundwater samples were collected during the annual groundwater monitoring activities at this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times the Alaska groundwater cleanup levels [18 AAC 75.345]), to evaluate NAPs, and to evaluate groundwater quality downgradient of the site to serve as a warning for potential impacts to the downgradient surface water body (Sweeper Cove).

Groundwater samples were collected from wells 02-453, 02-455, 02-479, 02-818, NMCB-07, NMCB-08, NMCB-10, NMCB-11, and NMCB-11 for surface water protection and natural attenuation monitoring. Monitoring was conducted annually in these nine wells, except when free product was present in a well. Samples were not collected from well 02-455 in 2009, from well 02-818 in 2006 and 2010, from well NMCB-07 in 2006, 2008, 2009, and 2010, and NMCB-10 in 2009 and 2010, because of the presence of free product. DRO, GRO, BTEX, and total lead analyses were conducted annually at all surface water protection monitoring wells from 2006 through 2009. Dissolved lead analysis was initiated in 2007. Following the 2009 annual groundwater monitoring event, sampling for toluene, ethylbenzene, total xylenes, and total and dissolved lead was discontinued at all site wells, because concentrations of these contaminants had not exceeded endpoint criteria in any sample collected at the site since sampling commenced in 2006. Therefore, samples collected from this site were only analyzed for DRO, GRO, and benzene in 2010. NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009.

Groundwater samples were collected from wells 02-451, 02-452, 02-461, 02-478, 02-813, 02-817, E-201, NMCB-04, NMCB-05, and NMCB-09 for natural attenuation monitoring. Although monitoring was planned at well 02-489, monitoring was not performed at this location during this 5-year review period because the well could not be located during the initial monitoring event and is presumed destroyed. Monitoring was conducted annually in these 10 wells, except when free product was present in the well. Samples were not collected from NMCB-04 in 2006, 2008, and 2010, because of the presence of free product. Sampling at location 02-813 was discontinued following the 2008 groundwater monitoring event, because endpoint criteria had not been exceeded for any contaminant of concern at this well since monitoring began in 2006, and this well is cross-gradient to the site and not likely to be impacted by the site. Sampling at location NMCB-05 was discontinued following the 2009 groundwater monitoring event, because endpoint criteria had not been exceeded for any contaminant of concern for four consecutive sampling events at this downgradient well, and endpoint criteria had also not been exceeded in wells upgradient of this well. DRO, GRO, BTEX, and total lead analyses were conducted annually at all MNA wells from 2006 through 2009. At the request of

ADEC, the groundwater sample from well 02-452 was also analyzed for ordnance compounds as a one-time event. Dissolved lead analysis was initiated in 2007.

Shoreline inspections were conducted in 2007, 2008, 2009, and 2010. Because exceedances of endpoint criteria had occurred in well NMCB-07 over the last three monitoring events, the 2008 groundwater monitoring report recommended that a sediment sample be attempted downgradient of this well within the armor rock wall at low tide. Therefore, sediment samples were collected in 2009 and 2010.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the NMCB Building Area, T-1416 Expanded Area site relative to site features. Monitoring wells 02-479, NMCB-12, NMCB-11, 02-455, NMCB-10, NMCB-08, 02-453, NMCB-07, 02-818, and 02-451 are located along the shoreline of Sweeper Cove from east to west. Wells 02-452, 02-461, and 02-817 are located to the west of Building T-1416. Wells 02-478 and NMCB-09 are located to the east of T-1416. NMCB-04 and E-201 are located northwest and downgradient of the site. NMCB-05 is also located northwest and downgradient of the site, but this well is located approximately 190 feet further downgradient than E-201. Well 02-813 is located approximately 400 feet to the east and cross-gradient of the site.

Marine Sediment Sampling Results. GRO and BTEX were not detected above method reporting limits in sediment sample NL-05 in 2009, and GRO and benzene were not detected above method reporting limits in the sample collected in 2010. DRO was reported in the sediment samples collected from NL-05 in 2009 and 2010 at concentrations of 40 and 61 mg/kg, respectively. ADEC has not established cleanup levels for specific compounds in sediment. Therefore, sample results for DRO were compared to South of Runway 18-36 Area endpoint criterion. The DRO concentrations were below the South of Runway 18-36 endpoint criterion of 90.6 mg/kg. Total lead was reported in the sediment sample collected from NL-05 in 2009 at a concentration of 13.2 mg/kg. No endpoint criterion has been established for total lead in sediment.

A visual inspection of the shoreline of Sweeper Cove downgradient of the site was performed in 2007, 2008, 2009 and 2010. During 2007, no seeps, petroleum odor, or sheens were observed by inspectors at the site. During the shoreline inspection conducted near NMCB-07 in 2008, no seeps were observed. In 2009, an inspection was conducted along the Sweeper Cove shoreline between wells 02-451 and 02-479. No groundwater seeps were observed at this site, but a petroleum odor was observed downgradient of well NMCB-07. Odor could not be attributed to a specific shoreline location, but was observed in the general area downgradient of the well. No evidence of petroleum contamination was observed at this site during the 2010 shoreline inspection.

Groundwater Sampling Results. Toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from all wells during this 5-year review period. DRO concentrations were below the endpoint criterion in all samples collected from wells 02-451, 02-452, 02-453, 02-455, 02-461, 02-478, 02-479, 02-818, E-201, NMCB-04, NMCB-05, NMCB-07, NMCB-09, NMCB-10, NMCB-11, and NMCB-12 during this 5-year review period. GRO concentrations were below the endpoint criterion in all samples collected from wells 02-451, 02-452, 02-453, 02-455, 02-478, 02-479, 02-817, 02-818, NMCB-04, NMCB-05, NMCB-08, NMCB-09, NMCB-10, NMCB-11, and NMCB-12 during this 5-year review period. Benzene concentrations were below the endpoint criterion in all samples collected from wells 02-451, 02-452, 02-453, 02-455, 02-461, 02-478, 02-479, 02-817, 02-818, E-201, NMCB-04, NMCB-05, NMCB-08, NMCB-09, NMCB-11, and NMCB-12 during this 5-year review period. Total lead concentrations were below the endpoint criterion in all samples collected from wells 02-451, 02-452, 02-453, 02-455, 02-478, 02-479, 02-817, 02-818, E-201, NMCB-04, NMCB-05, NMCB-07, NMCB-08, NMCB-09, NMCB-10, NMCB-11, and NMCB-12 during this 5-year review period. Finally, dissolved lead concentrations were below the endpoint criterion in all samples collected from all site wells during this 5-year review period.

GRO was reported in groundwater samples collected at well 02-461 from 2006 to 2010 at concentrations ranging from 8,600 to 14,000 μg/L. The highest GRO concentration in this well was measured in the 2007 sample. The GRO concentrations in samples collected from this well were less than the endpoint criterion of 13,000 μg/L, except for the sample collected in 2007. Total lead was reported in groundwater samples collected at well 02-461 from 2006 to 2009 at concentrations ranging from 64.7 to 180 μg/L. The highest total lead concentration in this well was measured in the 2006 sample. Total lead concentrations in samples collected from this well were less than the endpoint criterion of 150 μg/L, except for the sample collected in 2006.

DRO was reported in groundwater samples collected at well 02-817 from 2006 to 2010 at concentrations ranging from 6,500 to 16,000 μg/L. The highest DRO concentration in this well was measured in the 2007 sample. The DRO concentrations in samples collected from this well were less than the endpoint criterion of 15,000 μg/L, except for the sample collected in 2007.

GRO was reported in groundwater samples collected at well E-201 from 2006 to 2010 at concentrations ranging from 9,400 to 14,000 μg/L. The highest GRO concentration in this well was measured in the 2006 sample. The GRO concentrations in samples collected from this well were less than the endpoint criterion of 13,000 μg/L, except for the samples collected in 2006 and 2007.

GRO was reported in the groundwater sample collected at well NMCB-07 in 2007 at a concentration of 17,000 μg/L. The GRO concentration in this well was greater than the endpoint criterion of 13,000 μg/L. Benzene was reported in the groundwater sample collected at well

NMCB-07 in 2007 at a concentration of 71 μg/L. The benzene concentration in this well was greater than the endpoint criterion of 50 μg/L.

DRO was reported in groundwater samples collected at well NMCB-08 from 2006 to 2010 at concentrations ranging from 5,300 to 20,000 μg/L. The highest DRO concentration in this well was measured in the 2007 sample. The DRO concentrations in samples collected from this well were less than the endpoint criterion of 15,000 μg/L, except for the sample collected in 2007.

Benzene was reported in groundwater samples collected at well NMCB-08 from 2006 to 2010 at concentrations ranging from 6.8 to 53 μg/L. The highest benzene concentration in this well was measured in the 2006 sample. The benzene concentrations in samples collected from this well were less than the endpoint criterion of 50 μg/L, except for the sample collected in 2006.

Because no endpoint criterion (10 times ADEC cleanup levels) has been exceeded in the last 2 years for any of the analytes tested, no statistical analysis was performed.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the NMCB Building Area, T-1416 Expanded Area site. Free-product recovery is a component of the final remedy for this site (U.S. Navy and ADEC 2006a). Therefore, monthly monitoring and free-product recovery were performed at this site during this 5-year review period. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled "Summary of Product Thickness Data 2005 through 2010" located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled "Recovered Product Thickness Summary 2006 through 2010." The following summarizes the significant product thickness data for the NMCB Building Area, T-1416 Expanded Area site.

Between September 1997 and September 2010, monitoring wells within the vicinity of the NMCB Building Area, T-1416 Expanded Area site have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, eight wells (02-300, 02-497, 02-815, 02-818, NMCB-04, NMCB-07, NMCB-08 and NMCB-09) were gauged monthly from September 2006 through September 2008 as part of final remedy implementation (free-product recovery), and seven wells (02-300, 02-455, 02-463, 02-818, NMCB-07, NMCB-09, and NMCB-10) were gauged monthly from June 2010 to September 2010, based on a recommendation in the 2009 annual groundwater monitoring report. The frequency of product thickness measurements at wells 02-300, 02-497, 02-815, 02-818, NMCB-07, NMCB-08 and NMCB-09 was decreased from monthly to annually after September 2008, because free-product recovery using a passive recovery system met the practicable endpoint established for the shutdown of product recovery specified in the decision document (U.S. Navy and ADEC 2006a). (Note that the decision document for the NMCB Building Area, T-1416 Expanded Area site references the OU A ROD for the endpoint criterion for free-product recovery.) However, the frequency of product thickness measurements at wells 02-300, 02-455, 02-463, 02-818, NMCB-07, NMCB-09, and NMCB-10 was increased to monthly in June 2010 based on a recommendation in the 2009 annual groundwater monitoring report to restart free-product recovery at NMCB due to the presence of free product in these wells during the 2009 annual groundwater monitoring event.

Between October 2005 and September 2010, free product has been detected in fifteen wells, 02-300, 02-455, 02-461, 02-463, 02-497, 02-815, 02-818, 02-819, NMCB-04, NMCB-05, NMCB-07, NMCB-08, NMCB-09, NMCB-10, and NMCB-11, at the site. The maximum measured thickness of free product reported at the site since October 2005 was 1.91 feet, in well 02-300 in November 2006. The maximum measured thickness of free product reported in other site wells where free product was measured at thicknesses greater than 0.1 foot was:

- 0.15 foot in September 2010 at 02-463
- 0.50 foot in September 2010 at 02-497
- 1.08 feet in September 2010 at 02-815
- 0.66 foot in September 2010 at 02-818,
- 1.17 feet in September 2006 at NMCB-04
- 1.03 feet in November 2006 at NMCB-07
- 0.71 foot in November 2006 at NMCB-08,
- 0.58 foot in September 2010 at NMCB-10

Free-Product Recovery. Interim free-product recovery at this site was conducted between September 1997 and July 2005, using passive recovery devices installed in site wells. Interim free-product recovery efforts were discontinued in July 2005, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the final closure report for interim action free-product recovery (U.S. Navy 2006c). Free-product recovery was selected as part of the final remedy for the site in the decision document (U.S. Navy and ADEC 2006a). These additional free-product recovery activities were implemented at the site in September 2006. As discussed in the paragraphs above, free-product recovery was discontinued in October 2008, because free-product recovery using a passive recovery system met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD. However, free-product recovery was restarted in June 2010 at selected wells after product was detected in multiple wells at the site during the 2009 annual groundwater monitoring event. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 through 2010."

Free product was recovered from site wells at NMCB Building Area, T-1416 Expanded Area site during the annual groundwater monitoring events. Free-product recovery activities were also performed at eight wells (02-300, 02-497, 02-815, 02-818, NMCB-04, NMCB-07, NMCB-08 and NMCB-09) during monthly free-product recovery activities from September 2006 through September 2008, and at seven wells (02-300, 02-455, 02-463, 02-818, NMCB-07, NMCB-09, and NMCB-10) during monthly free-product activities from June 2010 to September 2010.

Approximately 3.37 gallons of free product were recovered from the NMCB Building Area, T-1416 Expanded Area site during the annual groundwater monitoring events from 2006 through 2010. Of this, 1 gallon was recovered from NMCB-04 during the September 2006 annual groundwater monitoring event, 0.52 gallon was recovered from site wells during the 2007 annual groundwater monitoring event, 0.63 gallon was recovered from well 02-300 during the 2008 annual groundwater monitoring event, 0.2 gallon was recovered from site wells during the 2009 annual groundwater monitoring event, and 1.02 gallons were recovered from wells 02-300 (0.1 gallon), 02-497 (0.11 gallon), 02-815 (0.24 gallon), 02-818 (0.19 gallon), and NMCB-07 (0.38 gallon) during the 2010 annual groundwater monitoring event. The 2007 and 2009 annual groundwater monitoring reports did not report the wells where product recovery was conducted. From September 2006 through September 2008, approximately 8.82, 0.11, 1.43, 1.79, 0.54, 8.15, and 7.49 gallons were recovered during monthly product-recovery activities from wells 02-300, 02-497, 02-815, 02-818, NMCB-04, NMCB-07, and NMCB-08, respectively. From June 2010 through September 2010, approximately 0.59, 0.21, 0.2, 0.68, and 0.18 gallons were recovered from wells 02-300, 02-463, 02-818, NMCB-07, and NMCB-10, respectively. Free product was not recovered from wells 02-455 and NMCB-09. Therefore, the total volume of free product recovered from the NMCB Building Area, T-1416 Expanded Area site for the period October 2005 through September 2010 was 33.56 gallons. The maximum volume of free product (10.14 gallons) was recovered from well 02-300 for the time period October 2005 through September 2010. In addition, 9.21 gallons were recovered from NMCB-07, and 7.49 gallons were recovered from NMCB-08 during this same time period.

Natural Attenuation Assessment

Sulfate concentrations for plume and plume edge wells 02-478, 02-817, 02-818, E-201, NMCB-09, and NMCB-12 are depleted (0.19 to 2.06 mg/L) compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (5 to 50 mg/L) are elevated (except in well NMCB-05) compared to background (0 mg/L), indicating the occurrence of iron reduction. Evidence of methanogenesis is observed at the NMCB site, as demonstrated by elevated methane concentrations. Methane concentrations at seven source/plume edge wells have concentrations of 1,000 µg/L or higher, and all site wells exceed that of background (0.38 µg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site.

No endpoint criteria have been exceeded in the last two years for any of the analytes tested; therefore no statistical analysis was performed (U.S. Navy 2010e).

Future Monitoring Recommendations

Petroleum hydrocarbons have not been detected at concentrations greater than the endpoint criteria, which are based on 10 times the ADEC cleanup levels, during the last three consecutive monitoring events. However, free product continues to be detected at the site. Monitoring at 02-451, a cross-gradient well, should be discontinued, because petroleum hydrocarbon concentrations from 2006 through 2010 have been below the endpoint criteria. Although petroleum hydrocarbon concentrations are less than the endpoint criteria, annual groundwater monitoring should be continued at all other wells at NMCB Building, Area T-1416 Expanded Area site as prescribed in the CMP, Revision 4 (U.S. Navy 2010a). Continued monitoring is recommended because of the presence of free product at this site. In addition, visual inspection of the shoreline should be continued, as well as sediment sampling in Sweeper Cove.

The frequency of product thickness measurements and free-product recovery, if required, should be decreased from monthly to annually for well 02-455, because free product has not been detected since September 2009. Furthermore, free product has never been recovered from this well. The frequency of product thickness measurements and free-product recovery, if required, should be increased to six times per year at wells 02-461, 02-497, 02-815, 02-819, NMCB-04, and NMCB-05, because free product was detected in these wells during the 2010 annual groundwater monitoring event. Product thickness measurements and free-product recovery, if required, should be decreased from monthly to six times per year at wells 02-300, 02-463, 02-818, NMCB-07, NMCB-09, and NMCB-10, because of low product thicknesses and recovered product volumes. Additionally, many wells are typically inaccessible during the winter months of January through March because of poor weather, snowy conditions, and icy roads. The type of free-product recovery equipment installed in each well should be clearly documented for each month of operation in the annual remedial action summary report. More specifically, the date of installation and date of removal should be included in the documentation. In addition, if bailing was used instead of an automated passive skimmer, passive skimmer, or sorbent sock, this should also be clearly documented. This information is necessary to verify that free-product recovery activities are being performed consistent with the decision document.

The presence of free product is intermittent at this site. For example, in well 02-300, no free product was detected in October of 2006, but nearly 2 feet were detected in November 2006. Because of the intermittent nature of the free product, it is recommended that product recovery equipment be left in place for a longer period of time, even when free product is not detected in a well for one month. This could potentially result in higher volumes of free product recovered. Detection of free product thicknesses less than a given level for a year, or the lack of recoverable free product from a well for a full year, may be more appropriate justifications for changing the type of equipment installed in a well. For example, if free product has not been detected at thicknesses greater than 0.1 foot over a year, and no product has been recovered, then a sorbent sock could replace a passive skimmer. These recommendations should be considered by the Optimization Work Group.

The decision document for the site requires that additional actions be initiated at the site if one of the following conditions are met:

- Analytical results for petroleum compounds exceed the groundwater criteria and an increasing trend in concentrations is found over three consecutive measurements in the surface water protections wells.

- An increasing trend in free-product thickness measurements is found over three consecutive measurements in the surface water protection wells.

As discussed above, analytical results for petroleum hydrocarbons have not exceeded the endpoint criteria in any wells, including the surface water protections wells, at the site over the last three consecutive monitoring events. However, free-product thicknesses appear to be increasing in three surface water protection wells (02-818, NMCB-07, and NMCB-10). Furthermore, free-product thicknesses have increased for three consecutive monitoring events in two surface water protection wells (NMCB-07 and NMCB-10). In addition, the maximum free-product thickness measured at the site since monitoring began in 2006 was measured in 2010 at nine wells, including three surface water protection wells (02-818, NMCB-07, and NMCB-10). Therefore, the need for additional actions to protect surface water should be evaluated.

6.4.8 NORPAC Hill Seep Area

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the NORPAC Hill Seep Area site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected limited groundwater monitoring as the final remedy for this site (U.S. Navy and ADEC 2005a). Groundwater samples were collected at this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times the Alaska groundwater cleanup levels [18 AAC 75.345]) and groundwater quality downgradient of the site to serve as a warning for potential impacts to the downgradient surface water body (Kuluk Bay).

Groundwater samples were collected from 04-145, 04-146, 04-147, 04-403, 04-405, and NS-2 for DRO analysis. Although annual sampling of well 04-146 was planned for 2006 through 2010, samples were not collected from this well in 2006 and 2008 because of the presence of free product. DRO analyses were conducted annually at 04-145, 04-147, 04-403, 04-405, and NS-02 through 2007. Monitoring was discontinued at wells 04-145 and NS-2 following the 2007 groundwater monitoring event, because DRO concentrations had never exceeded the endpoint criterion since monitoring began in 2005. The frequency of monitoring at wells 04-147, 04-403, and 04-405 was reduced to once every 2 years during even years following the 2007 groundwater monitoring event.

The 2005 groundwater monitoring report recommended that visual inspections for seeps and sheens along the adjacent shoreline of Kuluk Bay should be conducted during subsequent annual monitoring events, because free product was observed in surface water protection well 04-146. Because free product was observed in well 04-146 in 2008 and a shoreline inspection downgradient of this well revealed a sheen in the ocean, the 2008 groundwater monitoring report recommended that one sediment sample (analyzed for DRO) be collected during low tide along the embankment if sheen was observed during the 2009 shoreline inspection (location NL-06). Furthermore, because the 2009 shoreline inspection downgradient of well 04-146 revealed a groundwater seep with a sheen, the 2009 groundwater monitoring report recommended that that a sediment sample be collected again and analyzed for DRO if the seep or sheen was observed during the 2010 shoreline inspection. It was further recommended that surface water be collected for DRO analysis at this location, if conditions allow. These activities were implemented in 2006, 2009 and 2010, respectively.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells and the surface water and sediment sampling location NL-06. This figure is accessed through the “Current Monitoring” link for this site in the Site Catalog. Wells NS-2, 04-145, 04-403, and 04-405 are located in or near a housing area. Well 04-146 and 04-147 are located downgradient of the housing area and are monitored for surface water protection purposes. NL-06 is located along the Kuluk Bay embankment downgradient of well 04-146.

Analytical Results. DRO was reported in groundwater samples collected at well 04-145 in 2006 and 2007 at concentrations of 95 and 260 μg/L, respectively. DRO was not detected in the sample collected from NS-2 in 2007 above its detection limit of 60 μg/L, and DRO was reported in the groundwater sample collected from this location in 2006 at a concentration of 160 μg/L. DRO was reported in groundwater samples collected at well 04-403 from 2006 to 2010 at concentrations ranging from 640 to 1,000 µg/L. Samples collected at these three locations did not exceed the endpoint criterion of 15,000 µg/L during this 5-year review period.

DRO was reported in groundwater samples collected at well 04-146 in 2007, 2009, and 2010 at concentrations of 7,000, 3,200, 6,400 µg/L, respectively. The detected concentration in the 2007 sample may be elevated due to the presence of free-phase product in this well prior to sampling. Product was bailed prior to collecting the sample. These values are less than the endpoint criterion.

DRO was reported in groundwater samples collected at well 04-147 from 2006 to 2010 at concentrations ranging from 610 to 2,100 µg/L. DRO was reported in groundwater samples collected at well 04-405 from 2006 to 2010 at concentrations ranging from 1,400 to 2,900 µg/L. The highest DRO concentration was measured in the 2008 sample collected from these wells. Samples collected at these two locations did not exceed the endpoint criterion of 15,000 µg/L.

DRO was not detected above method reporting limits in sediment sample NL-06 in 2009. DRO was reported in the sediment sample collected from NL-06 in 2010 at a concentration of 26 mg/kg. The seep flow was not sufficient in 2009 or 2010 for the collection of a surface water sample. ADEC has not established cleanup levels for specific compounds in sediment. Therefore, sample results for DRO were compared to South of Runway 18-36 Area endpoint criterion. The DRO concentration was below the South of Runway 18-36 Area endpoint criterion of 90.6 mg/kg.

A visual inspection of the shoreline of Kuluk Bay downgradient of well 04-146 was performed in 2007, 2008, 2009 and 2010. A shoreline inspection was planned for 2006, but no information on this inspection was provided in the 2006 groundwater monitoring report. During 2007, no seeps, petroleum odor, or sheens were observed by inspectors. During the 2008 shoreline inspection, garbage and marine debris was observed on the shoreline and a sheen was also observed in the ocean near the debris. Because no seep was observed along the shoreline or embankment downgradient of the site, it is uncertain whether contamination from site groundwater was the source of the sheen. Inspectors noted the presence of a seep, a petroleum hydrocarbon odor, and a sheen during the 2009 shoreline inspection. In 2010, a groundwater seep was identified at the base of the cliff below well 04-146. Petroleum odor but no sheen was observed at this seep.

Trend evaluations are not performed for sites with limited groundwater monitoring as the selected remedy.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the NORPAC Hill Seep Area site. Although free-product recovery is not a component of the final remedy for this site (U.S. Navy and ADEC 2005a), monthly monitoring and free-product recovery were performed at one well (04-146), based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled "Summary of Product Thickness Data 2005 through 2010" located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled "Recovered Product Thickness Summary 2006 through 2010." The following summarizes the significant product thickness data for the NORPAC Hill Seep Area site.

Groundwater monitoring wells within the vicinity of the NORPAC Hill Seep Area have been periodically gauged for petroleum product. Gauging commenced in September 1996 and proceeded until November 2001. Free-product thickness measurement was restarted in September 2005 as part of the annual monitoring program. Only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, one well (04-146) was gauged monthly, concurrently with free-product recovery activities at South of Runway 18-36 Area, NMCB Building Area, T-1416 Expanded Area, and SWMU 62, New Housing Fuel Leak. Between October 2005 and September 2010, free product has been detected in one well, 04-146, at the site. The maximum measured free-product thickness in this well was 0.13 foot, measured in May 2007.

Free-Product Recovery. Interim free-product recovery at the NORPAC Hill Seep Area was discontinued in November 2001, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the free-product recovery closure report (U.S. Navy 2006c). In addition, free-product recovery is not a component of the final remedy for this site. However, in May of 2007, the ADEC requested that the Navy resume free-product recovery at selected wells, including well 04-146. Free-product recovery was to be performed if the measured thickness is greater than 0.5 foot in a 2-inch well and greater than 0.1 foot in a 4- or 6-inch well. Although well 04-146 is a 2-inch well, and measured thicknesses were below 0.5 foot, the Navy performed free-product recovery at this well. Between May 2007 and September 2010, 0.19 gallon of free product was recovered. In addition, during the 2007 annual groundwater monitoring event, 0.09 gallon of free product was bailed so that a groundwater sample could be collected from this well. As a result, a total of 0.28 gallon of free product was recovered from well 04-146 between May 2007 and September 2010. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 Through 2010."

Future Monitoring Recommendations

DRO concentrations have been below the endpoint criterion, which is based on 10 times the ADEC groundwater cleanup level, in all wells at this site during this 5-year review period. No free product has been observed since monitoring began in 2001 at wells 04-147, 04-403, and 04-405. While a shoreline inspection downgradient of well 04-146 revealed a groundwater seep with slight petroleum odor and free product was again observed in this well at a minimal thickness of 0.01 foot twice over the last year, a sediment sample collected at the seep showed DRO concentrations below method detection limits. Because of these observations, it is recommended that monitoring be discontinued at this site.

6.4.9 ROICC Contractor's Area, UST ROICC-7

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the ROICC Contractor's Area (UST ROICC-7) from 2006 through 2010. Limited groundwater monitoring was the remedy selected for this site (U.S. Navy, USEPA, and ADEC 2000). However, monitoring results obtained between 1999 and 2003 identified benzene concentrations in groundwater above the Alaska groundwater cleanup levels. Because benzene concentrations in groundwater exceed cleanup levels, the site failed to achieve endpoint criteria established for the limited groundwater monitoring remedy in the OU A ROD. Therefore, the Navy initiated monitored natural attenuation at this site. Groundwater samples were collected from this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to evaluate NAPs.

Groundwater samples were collected from 08-175, 08-200, and 08-202 for GRO, BTEX, and NAPs analyses. GRO analyses were conducted annually in well 08-175 through 2007. BTEX analyses were conducted every other year in well 08-175 through 2006, based on a recommendation made in the 2004 groundwater monitoring report. GRO and BTEX analyses were conducted annually in wells 08-200 and 08-202 through 2007. Monitoring for GRO, toluene, ethylbenzene, and xylenes was discontinued in all wells following the 2007 sampling event, because these compounds have not been detected above the endpoint criteria in any groundwater sample collected since 1999. Therefore, monitoring for benzene was conducted annually in wells 08-200 and 08-202 from 2008 through 2010, and every other year (even years) in well 08-175. Finally, NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009. The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells relative to the UST.

Analytical Results. GRO, toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all three wells in 2006 and 2007. Benzene concentrations in downgradient well 08-175 were also below the endpoint criterion of 5 μg/L during this 5-year review period. Benzene was reported in groundwater samples collected at well 08-200 from 2006 to 2010 at concentrations ranging from 250 to 320 μg/L. Benzene was reported in groundwater samples collected at well 08-202 from 2006 to 2010 at concentrations ranging from 12 to 16 μg/L. The highest benzene concentrations in these two wells were measured in the 2008 samples. The benzene concentrations in these two wells have all been greater than the endpoint criterion of 5 μg/L during this 5-year review period.

Benzene concentrations at well 08-200 have generally been stable from 2006 through 2010. Benzene concentrations at well 08-202 exhibited a statistically significant decreasing trend. GRO, toluene, ethylbenzene, and xylenes have not been monitored since 2007, because concentrations were below the endpoint criteria.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the ROICC Contractor's Area (UST ROICC-7) site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. Free product was not detected at this site during this 5-year review period.

Natural Attenuation Assessment

Sulfate concentrations for the site are depleted (0.07 to 0.10 mg/L) compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (75 mg/L) are elevated compared to background (0 mg/L), indicating the occurrence of iron reduction. Strong evidence of methanogenesis is observed at the ROICC site, as demonstrated by elevated methane concentrations in on-site wells (10,000 to 16,000 μg/L), compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation (U.S. Navy 2011a) are summarized in Table 6-1. Decreasing trends were identified using the Mann-Kendall test for benzene in groundwater from well 08-202. No trend was identified for benzene concentration in samples from 08-200. The Mann-Kendall test was not applied to results from well 08-175, because benzene concentrations in samples from this well are below the endpoint criterion.

The Sen's slope was calculated for benzene concentrations in groundwater samples over time from well 08-202 in the 2010 annual report (U.S. Navy 2011a). Using the median and lower slope limits and the 2010 benzene concentration in groundwater at well 08-202, benzene in groundwater could reach the endpoint criterion in 2017 or 2019, if the 2010 trend continues. There is no apparent trend in the data set for benzene in groundwater from well 08-200.

Future Monitoring Recommendations

Benzene remains in groundwater at concentrations greater than the endpoint criterion, which is based on the ADEC cleanup level, in the near source area. However, benzene has not migrated to the downgradient monitoring point at concentrations greater than the endpoint criterion. Annual monitoring should be continued as prescribed by the CMP, Revision 4 (U.S. Navy 2010a).

6.4.10 Runway 5-23 Avgas Valve Pit

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the Runway 5-23 Avgas Valve Pit site from 2006 through 2010. Monitored natural attenuation is the remedy selected for this site (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples were collected from this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to evaluate NAPs.

Groundwater samples were collected from wells 14-100 and 14-110 and analyzed for GRO, BTEX, and NAPs. GRO analyses were performed annually in well 14-100, and in 2007, 2008, and 2010 in well 14-110. Sampling for GRO at Runway 5-23 Avgas Valve Pit well 14-110 was inadvertently not performed in 2006. BTEX analyses were performed every other year (even years) in well 14-110, and in 2006 in well 14-110. NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009. The frequency of BTEX monitoring was reduced at both locations (14-100 and 14-110) to once every other year (even years) after the 2005 sampling event because BTEX concentrations had met the endpoint criteria at both locations, but GRO had remained above its endpoint criterion in groundwater at location 14-100. After the 2006 sampling event, monitoring of BTEX at 14-110 was discontinued, because BTEX concentrations were consistently well below the endpoint criteria. The frequency of GRO monitoring at well 14-110 was reduced to once every other year (even years) in 2008, because this well is downgradient of the source plume. Monitoring of BTEX was discontinued in well 14-100 following the 2008 sampling event, because no exceedance of the endpoint criteria for these compounds has been detected in this well since 2001.

The Site Catalog in Appendix A includes a figure that shows the location of these monitoring wells at the Runway 5-23 Avgas Valve Pit site. Wells 14-100 and 14-110 are located approximately 30 and 80 feet downgradient of the former source area.

Analytical Results. Benzene, toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from both wells during this 5-year review period. GRO concentrations in downgradient well 14-110 were also below the endpoint criterion of 1,300 μg/L during this 5-year review period. GRO was reported in groundwater samples collected at well 14-100 from 2006 to 2010 at concentrations ranging from 2,000 to 3,500 μg/L. The highest GRO concentration in this well was measured in the 2009 sample. The GRO concentrations in this well have consistently been greater than the endpoint criterion of 1,300 μg/L during this 5-year review period. GRO concentrations at well 14-110 have generally been stable from 2006 through 2010.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the Runway 5-23 Avgas Valve Pit site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. Free product was not detected at this site during this 5-year review period.

Natural Attenuation Assessment

Sulfate concentrations for the site are depleted (0.05 and 0.10 mg/L), compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (25 and 35 mg/L) are elevated compared to background (0 mg/L), indicating the occurrence of iron reduction. Strong evidence of methanogenesis is observed at the Runway 5-23, Avgas Valve Pit site, as demonstrated by elevated methane concentrations in on-site wells (3,600 and 8,100 μg/L), compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen’s trend evaluation (U.S. Navy 2011a) are summarized in Table 6-1. No trend and stable conditions were identified using the Mann-Kendall test for GRO in groundwater from well 14-100. The Mann-Kendall test was not applied to results from well 14-110, because GRO concentrations in samples from this well are below the endpoint criterion.

The Sen's slope was not calculated for GRO concentrations in groundwater samples over time from well 14-100 in the 2010 annual report (U.S. Navy 2011a) and GRO groundwater samples from well 14-110 is below the endpoint criterion. Based on these conditions, the existing data are not sufficient to estimate the time at which endpoint criterion may achieved and simple linear regression will not support an estimate.

Future Monitoring Recommendations

GRO concentrations in groundwater from the near source well (14-100) are greater than the endpoint criterion, which is based on the ADEC cleanup level. However, GRO has not migrated to the downgradient monitoring point (14-110) at concentrations greater than the endpoint criterion. Annual monitoring at both wells should be continued as prescribed by the CMP, Revision 4 (U.S. Navy 2010a).

6.4.11 SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs site from 2006 through 2010. The ROD-specified interim remedy for this site was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC selected monitored natural attenuation with ICs as the final remedy for this site (U.S. Navy and ADEC 2005a). Groundwater samples were collected at this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times the Alaska groundwater cleanup levels [18 AAC 75.345]), to evaluate NAPs, and to evaluate groundwater quality downgradient of the site to serve as a warning for potential impacts to the downgradient surface water body (Clam Lagoon).

Groundwater samples were collected from 12-145, 12-152, MW-116, MW-117, 12-801, and 12-802 for DRO, GRO, BTEX, and NAPs analysis. Although annual sampling of well 12-145 was planned for 2006 through 2010, samples were not collected from this well in 2006 and 2008 because of the presence of free product. DRO, GRO, and BTEX analyses were conducted in 2006, 2007, and 2009 at MW-116, in 2006, 2007, and 2008 at MW-117, and every other year (even years) at 12-801 and 12-802. BTEX analyses were conducted in 2006 at 12-152. DRO and GRO were not analyzed in the sample collected from this well in 2006, because an adequate volume of water could not be collected. This same well was not sampled in 2007 and 2008, because of insufficient water. As a result, monitoring of well 12-152 was discontinued in 2009. Sampling of well 12-801 was discontinued following the 2008 monitoring event, because concentrations of contaminants in this well met endpoint criteria. However, groundwater elevation and product thickness measurements were continued in this well. Monitoring of toluene, ethylbenzene, and xylenes was discontinued following the 2009 sampling event, because concentrations of these compounds were either not detected above reporting limits or detected at concentrations less than the endpoint criteria. Monitoring frequencies at 12-801, 12-802, MW-116, and MW-117 did not follow the 2005 or 2007 CMPs, which required annual monitoring for DRO, GRO, and BTEX. Monitoring at these four locations also did not consistently follow the recommendations made in the annual groundwater monitoring reports. NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009. However, annual NAPs analyses were performed in well 12-802 from 2006 through 2009. Frequency of NAPs analyses was reduced to once every 5 years in well 12-802 following the 2009 sampling event.

The 2009 groundwater monitoring report recommended that a visual inspection be conducted of Clam Lagoon shoreline downgradient of surface water protection well 12-802 in 2010, because free product was observed in this well. Furthermore, the 2009 groundwater monitoring report recommended that a surface water and sediment sample be collected in 2010 from the shoreline if petroleum contamination is observed during the visual inspection. The surface water sample would be analyzed for DRO, GRO, BTEX, TAH, and TAqH, and the sediment sample would be analyzed for DRO, GRO, BTEX, and PAHs. Petroleum contamination was not observed during the visual inspection. Therefore, neither a surface water nor a sediment sample was collected.

The Site Catalog in Appendix A includes a figure that shows the location of these monitoring wells at the SA 78, Old Transportation Building site. Well 12-145 is located within a former UST excavation and inferred source area. Well 12-152 is located approximately 220 feet downgradient of the former UST excavation, and wells MW-116 and MW-117 are located approximately 290 and 240 feet from the former UST excavation, respectively. Well MW-116 is positioned south of the plume centerline, and MW-117 is positioned north of the plume centerline. Well 12-801 is located in a surface drainage swale approximately 800 feet from the former UST excavation along a line drawn between wells 12-145 and MW-117. Well 12-802 is located approximately 780 feet from the former UST excavation along an approximate line drawn between wells 12-152 and MW-116.

Analytical Results. Benzene, toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from all wells during this 5-year review period. DRO and GRO concentrations in all samples collected from surface water protection wells 12-801 and 12-802 and wells MW-116 and MW-117 were below their respective endpoint criteria during this 5-year review period. Finally, the GRO concentrations in all samples collected from well 12-145 were below the endpoint criterion.

DRO was reported in groundwater samples collected at well 12-145 from 2006 to 2010 at concentrations ranging from 2,000 to 38,000 μg/L. The highest DRO concentration in this well was measured in the 2007 sample. Only the DRO concentration in the sample collected in 2007 from this well exceeded the endpoint criterion of 15,000 μg/L.

In 2010, no contaminant had been detected above the endpoint criteria in any well at the site for the last two monitoring events. Therefore, no trend analyses were performed at the site.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs site. Although free-product recovery is not a component of the final remedy for this site (U.S. Navy and ADEC 2005a), monthly monitoring and free-product recovery were performed at one well (12-145), based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled "Summary of Product Thickness Data 2005 through 2010" in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled "Recovered Product Thickness Summary 2006 through 2010." The following summarizes the significant product thickness data for the SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs site.

Between November 1996 and September 2010, monitoring wells within the vicinity of the SA 78, Old Transportation Building site have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, one well (12-145) was gauged monthly from May 2007 through May 2010, concurrently with free product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. Between October 2005 and September 2010, free product has been detected in two wells, 12-145 and 12-802, at the site. The maximum measured free-product thickness in well 12-145 was 0.46 foot, measured in September 2006. Free product was only measured once in 12-802 in September 2009 at a thickness of 0.01 foot. The frequency of product thickness measurements at well 12-145 was decreased from monthly to annually after May 2010, because free product had not been observed at this well since January of 2009.

Free-Product Recovery. Interim free-product recovery at the SA 78, Old Transportation Building site was discontinued in June 2000, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the draft free-product recovery closure report (U.S. Navy 2000b). In addition, free-product recovery is not a component of the final remedy for this site. However, in May of 2007, the ADEC requested that the Navy resume free-product recovery at selected wells, including well 12-145. Free-product recovery was to be performed if the measured thickness is greater than 0.5 foot in a 2-inch well and greater than 0.1 foot in a 4- or 6-inch well. Although well 12-145 is a 2-inch well, and measured thicknesses above 0.5 foot have not been detected, the Navy performed free-product recovery at this well in December 2008. A total of 0.01 gallon of free product was recovered from this well in December 2008. Because free product was not recovered during any other month during this 5-year review period, the total volume of free product recovered from the SA 78, Old Transportation Building site for the period October 2005 through September 2010 is 0.01 gallon. Monthly product thickness measurements and free-product recovery, if required, were discontinued in well 12-145 after May 2010, because free product had not been observed in this well since January 2009, and only 0.01 gallon of free product was recovered from this well from May 2007 through May 2010. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 through 2010.”

Natural Attenuation Assessment

Sulfate reduction appears to be occurring in the source well 12-145 on site. This well has a lower sulfate concentration (1.93 mg/L) than background well E-701 (2.52 mg/L). The ferrous iron concentration is elevated above background (0 mg/L) at two site wells, source well 12-145 (12.5 mg/L) and cross-gradient well MW-117 (5 mg/L), which indicates that iron reduction may be occurring. Strong evidence of methanogenesis is observed at the SA 78, Old Transportation Building site, as demonstrated by elevated methane concentrations in source well 12-145 (2,400 μg/L) and cross-gradient well MW-117 (330 μg/L), compared to background (0.38 μg/L). It should be noted that well 12-802 is located adjacent to a creek in a wetland and the depleted oxygen and elevated sulfate and carbon dioxide concentrations observed in this well are suspected to be due to the microbial degradation of naturally occurring organic matter associated with wetland saturated soils (U.S. Navy 2010e).

The 2009 annual report concluded that these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

No Mann-Kendall and Sen’s trend evaluation was conducted for DRO, GRO, and benzene in groundwater at this site, because results for these analytes have been below the endpoint criteria.

Future Monitoring Recommendations

DRO, GRO, benzene, toluene, ethylbenzene, and total xylene concentrations have been below their respective endpoint criteria, which are based on 10 times the ADEC cleanup levels, for at least two years. Strong evidence of natural attenuation was shown to be occurring in on-site groundwater in 2009, and data supporting the continuation of natural attenuation were again observed in 2010. Free product has not been observed at this site since January of 2009, and no evidence of petroleum contamination was observed during the shoreline inspection. Based on these observations, it is recommended that one more year of monitoring be conducted at this site before it is recommended for closure, provided concentrations remain below endpoint criteria.

6.4.12 SA 79, Main Road Pipeline, South End

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the SA 79, Main Road Pipeline, South End site from 2006 through 2010. Limited groundwater monitoring is the selected remedy for the site (U.S. Navy, USEPA, and ADEC 2000). However, the site did not achieve limited groundwater monitoring endpoints and reverted to natural attenuation monitoring. Groundwater samples were collected from this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]), to verify that natural attenuation is occurring at the south end of the site, and to evaluate groundwater quality downgradient of the site to serve as a warning indicator for potential impacts to the downgradient surface water body (Sweeper Cove).

Groundwater samples were collected from 02-230, E-403, MRP-MW8, and NL-01 for DRO, TAH, TAqH, and NAPs analysis. DRO analysis was conducted annually at 02-230 and MRP-MW8, in 2008 and 2009 at E-403, and in 2007 and 2008 at NL-01. TAH and TAqH analysis was conducted in 2008 and 2009 at 02-230 and MRP-MW8, and in 2008 at NL-01. NAPs analyses were conducted every 5 years in wells 02-230 and MRP-MW8, with the most recent sampling event occurring in 2009. Monitoring for DRO at NL-01, which is a temporary drive-point well installed at the shore of Sweeper Cove downgradient of well 02-230, was initiated in 2007 to assess impacts to Sweeper Cove. Monitoring for DRO at E-403 and monitoring for TAH and TAqH at 02-230, MRP-MW8, and NL-01 was initiated in 2008 based on the recommendations in the final petroleum summary report (U.S. Navy 2008c) and the 2007 groundwater monitoring report. The 2008 groundwater monitoring report recommended that monitoring at NL-01 be discontinued, because there is no technically sound method of collecting representative groundwater in the intertidal zone. The tide continually flushes away the lighter fresh water and hydrocarbons in the intertidal area. The 2008 groundwater monitoring report concluded that dissolved groundwater contaminants from the site are entering the marine environment based on the close proximity of contaminated wells to the shoreline, even though samples collected from the temporary well point have yielded results that have been below endpoint criteria. Monitoring at E-403 was discontinued after 2009 groundwater monitoring event, because concentrations of DRO in this well met the endpoint criterion. Monitoring for

TAH and TAqH was discontinued at the site following the 2009 groundwater monitoring event, because concentrations met endpoint criteria.

Because DRO concentrations in the 2003 and 2004 groundwater samples from wells 02-230 and MRP-MW8 were greater than the endpoint criterion, a visual inspection of the shoreline in the area of these wells has been conducted annually since 2005. The purpose of the inspection is to identify petroleum seeps on the shoreline, or sheens on the surface water of Sweeper Cove. No seep, sheen, odor, or discoloration was observed during any of the annual shoreline inspections conducted between 2006 and 2010.

Because of uncertainty regarding impacts of the DRO plume on Sweeper Cove, additional data were collected at SA 79, Main Road Pipeline, South End. The objective of the additional characterization at the site was to collect sufficient data to determine if DRO is migrating in groundwater to the adjacent surface water body (Sweeper Cove) at concentrations greater than ADEC surface water criteria. During this supplemental investigation, eight soil borings were sampled. Two soil borings were completed as wells, and groundwater samples were collected from these two new wells and two existing wells (02-230 and MPRP-MW8). The results of this groundwater sampling are discussed below.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SA 79, Main Road Pipeline, South End site. Wells 02-230 and MRP-MW8 are located approximately 70 and 100 feet from the shoreline of Sweeper Cove respectively. E-403 is located approximately 100 feet southwest of the mouth of Sweeper Creek. NL-01 is located at the shore of Sweeper Cove downgradient of well 02-230. New well 601 is located approximately 80 feet upgradient of well MRP-MW8, and new well 602 is located approximately 400 feet south of 02-230 downgradient of an area of elevated DRO concentrations in soil.

Analytical Results. TAH and TAqH were either not detected or detected at concentrations below the ADEC surface water quality standards in all samples collected from all wells during this 5-year review period. DRO was either not detected or detected at concentrations below the endpoint criterion of 1,500 µg/L in all groundwater samples collected from wells E-403, NL-01, and 602 during this 5-year review period.

DRO was reported in groundwater samples collected at surface water protection well 02-230 from 2006 to 2010 at concentrations ranging from 2,400 to 5,500 µg/L. The highest DRO concentration in this well was measured in the 2006 sample. DRO was reported in groundwater samples collected at well MRP-MW8 from 2006 to 2010 at concentrations ranging from 2,400 to 4,700 µg/L. This highest DRO concentration was measured in the 2007 sample from this well. The DRO concentrations in these two wells have consistently been greater than the endpoint criterion of 1,500 µg/L during this 5-year review period. DRO was reported in the groundwater sample collected from well 601 in July 2010 at a concentration of 2,500 μg/L, which exceeds the endpoint criterion.

DRO concentrations at wells MRP-MW8 and 02-230 have generally been stable from 2006 through 2010.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SA 79, Main Road Pipeline, South End site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. Free product was not detected at this site during this 5-year review period.

Natural Attenuation Assessment

The past occurrence of aerobic digestion is demonstrated at this site by the depletion of dissolved oxygen concentration (1 mg/L), compared to the background concentration of 11 mg/L. However, the carbon dioxide concentration in the on-site well (13 mg/L) was only slightly elevated, compared to the background well E-701 (less than 10 mg/L). The alkalinity concentration is higher in the site well (93 mg/L) than background (18.9 mg/L) and indicates that well MRP-MW8 is within the contaminant plume. The sulfate concentration for the site is not depleted (21.7 mg/L), compared to background (2.52 mg/L), indicating sulfate reduction is not occurring at the site. The ferrous iron concentration (12.5 mg/L) is elevated, compared to background (0 mg/L), indicating the occurrence of iron reduction. However, it should be noted that well MRP-MW8 is tidally influenced and elevated sulfate and ferrous iron concentrations may be due to saltwater intrusion. Weak evidence of methanogenesis is observed at the SA 79, Main Road Pipeline, South End site, as demonstrated by a slightly elevated methane concentration in the on-site well (2.1 μg/L), compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data provide only weak evidence that biodegradation is occurring at the site, possibly by aerobic digestion (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation (U.S. Navy 2011a) are summarized in Table 6-1. No trend and stable conditions were identified using the Mann-Kendall test for DRO in groundwater from wells MRP-MW8 and 02-230. As a result, the Sen's slope was not calculated for DRO data over time from each of these wells, and an estimate to achieve endpoint criterion is not possible. The data also do not support use of simple linear regression to estimate a time when the endpoint criterion may be achieved for either monitored well.

Future Monitoring Recommendations

Dissolved DRO has migrated to the surface water protection point at a concentration greater than the endpoint criterion, which is based on the ADEC cleanup level. However, petroleum seeps or sheens have not been observed along the adjacent shoreline of Sweeper Cove, and TAH and TAqH concentrations were below surface water quality criteria in all site wells during this review period. Annual monitoring should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a). In addition, the two new site wells (601 and 602) should be included in annual monitoring activities at this site, because the concentration of DRO in well 601 is greater than the endpoint criterion and because well 602 is located downgradient of an area of high DRO concentrations in soil.

6.4.13 SA 80, Steam Plant 4, USTs 27089 and 27090

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the SA 80, Steam Plant 4, USTs 27089 and 27090 site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC selected monitored natural attenuation with ICs as the final remedy for this site (U.S. Navy and ADEC 2005a). In addition, the decision document specified that two additional soil samples would be collected at the site to evaluate natural attenuation processes within the vadose zone soil, and one additional groundwater sample would be collected in well 04-173 to evaluate petroleum concentrations in the area where free product was historically detected. Results of this additional soil and groundwater sampling are discussed in the Site Catalog (Appendix A). Groundwater samples were collected from SA 80, Steam Plant 4, USTs 27089 and 27090 site during annual groundwater monitoring to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to verify that natural attenuation is occurring.

Groundwater samples were collected from 04-103, 04-158, 04-159, 04-173, 04-801, and SP4-3 for DRO and NAPs analysis. Although annual sampling of wells 04-158 and 04-173 was planned for 2006 through 2010, samples were not collected from these two wells in 2006 through 2009 because of the presence of free product. DRO analyses were conducted annually at wells 04-159 and 04-801, in 2006 and 2008 at well 04-103, and in 2006, 2007, 2008, and 2010 at well SP4-3. NAPs analyses were conducted every 5 years in wells 04-159, 04-801, and SP4-3, with the most recent sampling event occurring in 2009. NAPs analyses were not performed in wells 04-158 and 04-173, because of the presence of free product. The frequency of DRO monitoring was reduced at well 04-103 to once every other year (even years) after the 2006 sampling event, because the DRO concentration had met the endpoint criterion and this cross-gradient well is located a long distance from wells exhibiting exceedances of the endpoint criteria. Sampling of well 04-103 was discontinued following the 2008 monitoring event, because concentrations of contaminants in this cross-gradient well met endpoint criteria for six consecutive monitoring events. The frequency of DRO monitoring was reduced at well SP4-3 to once every other year (even years) after the 2008 sampling event, because the DRO concentrations had met endpoint criterion and exhibited a decreasing trend. However, monitoring for free phase product was continued at this location on an annual basis.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SA 80, Steam Plant 4, USTs 27089 and 27090 site. Wells 04-158 and 04-173 are located in the general former source area. Wells 04-159 and 04-801 are located within the dissolved plume at increasing downgradient distances, respectively. SP4-3 is located south of the centerline, and 04-103 is located substantially south of the plume centerline and further downgradient than SP4-3.

Analytical Results. DRO was either not detected or detected at concentrations below the endpoint criterion of 1,500 µg/L in all groundwater samples collected from wells 04-103 and 04-801 during this 5-year review period. DRO was reported in groundwater samples collected at well 04-159 from 2006 to 2010 at concentrations ranging from 3,800 to 9,800 µg/L. The highest DRO concentration was measured in the 2008 sample from this well. The DRO concentrations in this well have consistently been greater than the endpoint criterion of 1,500 µg/L during this 5-year review period. DRO was reported in groundwater samples collected at well SP4-3 from 2006 to 2010 at concentrations ranging from 500 to 5,700 µg/L. The highest DRO concentration was measured in the 2010 sample from this well. Samples collected from this well exceeded the endpoint criterion in 2006 and 2010. DRO was reported in groundwater samples collected at wells 04-158 and 04-173 in 2010 at concentrations of 13,000 and 3,200 µg/L, respectively. Both of these concentration exceed the endpoint criterion.

DRO concentrations at wells 04-159 and SP4-3 have generally been stable from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SA 80, Steam Plant 4, USTs 27089 and 27090 site. Although only limited free-product recovery activities, conducted during the regularly scheduled annual groundwater monitoring activities, are part of the final remedy for this site (U.S. Navy and ADEC 2005a), monthly monitoring and free-product recovery were performed at several wells based on requests by ADEC. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled

"Summary of Product Thickness Data 2005 Through 2010" located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled "Recovered Product Thickness Summary 2006 Through 2010." The following summarizes the significant product thickness data for the SA 80, Steam Plant 4, USTs 27089 and 27090 site.

Between October 1996 and September 2010, monitoring wells within the vicinity of the SA 80, Steam Plant 4 site have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, four wells (04-155, 04-158, 04-173, and SP4-2) were gauged monthly from May 2007 through September 2010, and two wells (04-157 and 04-164) were gauged monthly from October 2008 through September 2010. Monthly gauging (and free-product recovery) activities were performed concurrently with free-product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. Wells 04-155, 04-158, 04-173, and SP4-2 were identified for potential free-product recovery, based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. Wells 04-157 and 04-164 were added to the monthly gauging in October 2008 based on a request by ADEC, because free product was detected in well 04-157 in September 2008, and 04-164 is downgradient of wells 04-157, 04-158, and 04-173, all of which contained free product in September 2008.

Between October 2005 and September 2010, free product has been detected in eight wells, 04-155, 04-157, 04-158, 04-159, 04-164, 04-173, SP4-2, and SP4-3, at the site. The maximum measured thickness of free product reported at the site since October 2005 was 1.34 feet, in well 04-157 in March 2009. The maximum measured thickness of free product reported in wells 04-155, 04-158, 04-159, 04-164, 04-173, SP4-2, and SP4-3 was 0.41 foot in September 2007, 0.75 foot in May 2007, 0.01 foot in September 2009, 0.01 foot in September 2009 and September 2010, 0.74 foot in September 2006, 0.02 foot in July and August 2007, and 0.01 foot in September 2009, respectively.

Free-Product Recovery. Interim free-product recovery at the SA 80, Steam Plant 4 site ceased in June 2000, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the draft free-product recovery closure report (U.S. Navy 2000b). However, the final decision document for this site specified that annual free-product recovery be performed as part of the scheduled annual groundwater monitoring activities (U.S. Navy and ADEC 2005a). Furthermore, the decision document states that free product will be removed in wells with measured free-product thicknesses above 0.5 foot in a 2-inch well and 0.1 foot in a 4- or 6-inch well. In May of 2007, the ADEC requested that the Navy resume monthly free-product recovery at selected wells, including wells 04-155, 04-158, 04-173, and SP4-2. Wells 04-157 and 04-164 were added to the monthly gauging in October 2008, also at the request of ADEC. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 Through 2010."

Free product was recovered from well 04-173 during annual groundwater monitoring events in September 2006, September 2007, and September 2008, and from wells 04-155, 04-157, 04-158, and 04-173 during monthly free-product recovery activities that occurred between May 2007 and September 2010. Approximately 2.67 gallons of free product was recovered from 04-173 during the annual groundwater monitoring events from October 2005 through September 2010. Approximately 0.22, 3.21, 1.7, and 0.58 gallons were recovered during the monthly free-product recovery activities from May 2007 through September 2010 from wells 04-155, 04-157, 04-158, and 04-173, respectively. Therefore, the total volume of free product recovered from the SA 80, Steam Plant 4 site for the period October 2005 through September 2010 was 8.38 gallons. Although the maximum volume of free product was recovered from 04-173 during this time period, the maximum volumes recovered for October 2008 through September 2009 and October 2009 through September 2010 have been from wells 04-157 and 04-158. It should also be noted that free product was recovered in September 2004 from well 04-173 during additional groundwater sampling required by the decision document. The report describing these activities was not available when the last 5-year review was prepared. Therefore, this information is provided here. Approximately 6 gallons of free product were recovered from well 04-173 during the September 2004 sampling event.

From 2006 through 2008, free product was not always recovered from wells 04-155, 04-157, and 04-173 when free-product thicknesses were greater than 0.1 foot. Wells 04-155 and 04-157 are 4-inch-diameter wells, and well 04-173 is a 6-inch-diameter well. During the 2006 annual groundwater monitoring event, free product was not recovered from well 04-155, though the product thickness was 0.14 foot. During the 2008 annual groundwater monitoring event, free product was not recovered from well 04-157, though the product thickness was 0.17 foot. During the August 2007 monthly free-product recovery activities, free product was not recovered from well 04-173, though the product thickness was 0.25 foot. Finally, during the September 2007 monthly free-product recovery activities, free product was not recovered from wells 04-155 and 04-173, though product thickness were 0.41 and 0.22 foot, respectively. Since September 2008, free-product has been recovered from all wells as required by the decision document.

Natural Attenuation Assessment

Sulfate concentrations for the plume source wells are depleted (0.07 and 0.11 mg/L), compared to background (2.52 mg/L), indicating strong evidence that sulfate reduction is occurring at the site. Plume source well ferrous iron concentrations (100 and 112.5 mg/L) are elevated, compared to background (0 mg/L), indicating the occurrence of iron reduction. Strong evidence of methanogenesis is observed at the SA 80, Steam Plant 4 site, as demonstrated by elevated methane concentrations in contaminated source wells (1,300 and 5,100 μg/L), compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data strongly indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation (U.S. Navy 2011a) are summarized in Table 6-1. No trend and stable conditions were identified using the Mann-Kendall test for DRO in groundwater from wells 04-159 and SP4-3. There are not enough data to calculate the Mann-Kendall statistic for wells 04-158 and 04-173. DRO concentrations are below the endpoint criterion in groundwater samples form well 04-801. As a result, the Sen's slope was not calculated for DRO data over time from each of these wells, and an estimate to achieve endpoint criterion is not possible. The data also do not support use of simple linear regression to estimate the time when endpoint criterion may be achieved for these wells.

Future Monitoring Recommendations

DRO is present in groundwater at concentrations greater than the endpoint criterion, which is based on the ADEC cleanup level, in the former source area and immediately downgradient. DRO has not migrated to the downgradient monitoring points at concentrations greater than PQLs. Annual monitoring should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), with one modification. The monitoring frequency of DRO in well SP4-3 should be increased to annually, because the concentration in the sample collected in 2010 exceeded the endpoint criterion. In addition, product thickness measurements and free-product recovery, if required, should be reduced to six visits per year at wells where monthly measurements are currently being performed. The observance of low product thicknesses and recovered product volumes warrants a reduction in the monthly product recovery activity frequency. In addition, free-product recovery often cannot be performed or is severely limited during winter months because of poor weather, snowy conditions, and icy roads.

6.4.14 SA 82, P-80/P-81 Buildings

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring or product thickness measurements at the SA 82, P-80/P-81 Buildings site from 2006 through 2009. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected limited groundwater monitoring as the final remedy for this site (U.S. Navy and ADEC

2005a). In addition, the decision document specified that a limited soil removal would be conducted at this site. Groundwater samples were collected from SA 82, P-80/P-81 Buildings site during annual groundwater monitoring to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times Alaska groundwater cleanup levels [18 AAC 75.345]) and to evaluate groundwater quality downgradient of the site to serve as a warning indicator for potential impacts to the downgradient surface water body (Clam Lagoon).

Groundwater samples were collected from 12-170, 12-172, 12-180, 12-194, and 12-401 for DRO and RRO analysis. DRO analysis was conducted in 2006 and 2008 at wells 12-170 and 12-172, in 2006 at 12-401, in 2007 and 2008 at 12-180, and in 2008 at 12-194. RRO analysis was conducted in 2008 at well 12-194. It is unclear why the sample collected from 12-194 was analyzed for RRO. Sampling of well 12-401 was discontinued following the 2006 monitoring event, because concentrations of contaminants in this well met endpoint criteria for five consecutive monitoring events. The frequency of DRO monitoring was reduced at wells 12-170 and 12-172 to once every other year (even years) after the 2006 sampling event, because DRO had not been measured at concentrations greater than the endpoint criterion of 15,000 µg/L in samples collected from these wells. A sample was not collected at well 12-180 in 2006 because of the presence of free product. Monitoring of well 12-194 was started in 2008, because free product was detected in this well in 2007. Monitoring was discontinued at this site following the 2008 groundwater monitoring event, because concentrations of DRO have been less than the endpoint criterion. ADEC granted the site “cleanup complete with institutional controls” on June 22, 2010.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SA 82, P-80/P-81 Buildings site. Wells 12-170 and 12-180 are each positioned within individual former UST excavations that are separated by approximately 110 feet. Well 12-172 is located approximately 90 feet downgradient of well 12-170. Wells 12-401 and 12-194 are located approximately 220 feet downgradient of well 12-170, and are approximately 50 feet apart.

Analytical Results. DRO was either not detected or detected at concentrations below the endpoint criterion of 15,000 µg/L in all groundwater samples collected from all wells at this site during this 5-year review period. Since no groundwater DRO concentrations have exceeded the endpoint criterion during any monitoring event no trend analysis has been performed for this site.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SA 82, P-80/P-81 Buildings site. Although free-product recovery is not a component of the final remedy for this site (U.S. Navy and ADEC 2005a), monthly monitoring and free-product recovery were performed at one well (12-180) based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness Summary 2006 Through 2010.” The following summarizes the significant product thickness data for the SA 82, P-80/P-81 Buildings site.

Between October 1996 and October 2009, monitoring wells within the vicinity of the SA 82, P-80/P-81 Buildings site have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, one well (12-180) was gauged from May 2007 through October 2009, concurrently with free-product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. Between October 2005 and October 2009, free product has been detected in two of the six wells (12-180 and 12-194) gauged for free product at the site. The maximum measured thickness of free product in well 12-180 was 0.25 in September 2006. Monthly product thickness measurements at the site were discontinued after October 2009, because free product has not been detected at the site since January 2009. ADEC granted the site “cleanup complete with institutional controls” on June 22, 2010.

Free-Product Recovery. Interim free-product recovery at the SA 82, P-80/P-81 Buildings was discontinued in June 2000, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the draft free-product recovery closure report (U.S. Navy 2000b). In addition, free-product recovery is not a component of the final remedy for this site. However, in May of 2007, ADEC requested that the Navy resume free-product recovery at selected wells, including well 12-180, as discussed above. Free-product recovery was to be performed if the measured thickness is greater than 0.5 foot in a 2-inch well and greater than 0.1 foot in a 4- or 6-inch well. Free product was recovered from well 12-180 during the September 2006 annual groundwater monitoring event. Approximately 0.4 gallon of free product was recovered from this 4-inch well. No free product was recovered from well 12-180 during the monthly free-product recovery activities that occurred between May 2007 and October 2009, because the maximum free-product thickness detected was 0.04 foot. Therefore, the total volume of free product recovered from the SA 82, P-80/P-81 Buildings site for the period October 2005 through October 2009 was 0.4 gallon. Free-product recovery activities at well 12-180 were discontinued after October of 2009, because free product has not been detected at the site since January 2009. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 Through 2010.”

Future Monitoring Recommendations

Monitoring is no longer being performed at this site, because ADEC granted the site "cleanup complete with institutional controls" on June 22, 2010.

6.4.15 SA 88, P-70 Energy Generator, UST 10578

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the SA 88, P-70 Energy Generator, UST 10578 site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC selected limited groundwater monitoring as the final remedy for this site (U.S. Navy and ADEC 2005a). In addition, the decision document specified that four additional groundwater samples would be collected from wells 12-252, 12-162, 12-163, and 12-198 to obtain current information on petroleum concentrations in the area. Groundwater samples were collected from the SA 88, P-70 Energy Generator, UST 10578 site during annual groundwater monitoring to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times Alaska groundwater cleanup levels [18 AAC 75.345]) and to evaluate groundwater quality downgradient of the site to serve as a warning indicator for potential impacts to the downgradient surface water body (Clam Lagoon).

Groundwater samples were collected from 12-162, 12-163, 12-197, 12-198, 12-252, 12-253, 12-701, and 12-702 for DRO analysis. Although annual sampling of wells 12-162, 12-163, 12-197, 12-198, 12-252 was planned for 2006 through 2010, samples were not collected from these wells during some of the annual groundwater events because of the presence of free product. Samples were not collected from any of these wells in 2006, samples were not collected from 12-198 during the 2007 groundwater monitoring event, and samples were not collected from 12-163, 12-198, and 12-252 during the 2008 groundwater monitoring event. DRO analyses were conducted annually on samples collected at wells 12-253, 12-701, and 12-702. However, monitoring was discontinued at wells 12-701 and 12-702 following the 2009 groundwater monitoring event, because DRO concentrations had remained less than the endpoint criterion in these wells for four consecutive sampling events. Monitoring for free product continued at these two wells on an annual basis.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SA 88, P-70 Energy Generator, UST 10578 site. Well 12-701 is located outside of the dissolved petroleum plume, approximately 170 feet downgradient of the former UST at this site and approximately 300 feet upgradient of a drainage ditch that drains to Clam Lagoon. Well 12-162 is located within the former UST excavation limits at the site. Well 12-163 is located approximately 20 feet downgradient of the former UST excavation. Well 12-198 is located approximately 15 feet upgradient of the former UST excavation. Well 12-252 is located approximately 40 feet downgradient of the former UST excavation. Well 12-253 is located approximately 40 feet downgradient of well 12-252. Wells 12-197 and 12-702 are located cross gradient of the plume centerline.

Analytical Results. DRO concentrations were below the endpoint criterion in all samples collected from all site wells during this 5-year review period. Since no well has been observed to exceed endpoint criteria, no statistical analysis was performed. However, concentrations appear to be generally stable or declining in all wells at the site.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SA 88, P-70 Energy Generator, UST 10578 site. Although only limited free-product recovery activities, conducted during the regularly scheduled annual groundwater monitoring activities, are part of the final remedy for this site (U.S. Navy and ADEC 2005a), monthly monitoring and free-product recovery were performed at five wells, based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness Summary 2006 Through 2010.” The following summarizes the significant product thickness data for the SA 88, P-70 Energy Generator, UST 10578 site.

Between October 1996 and September 2010, monitoring wells within the vicinity of the SA 88, P-70 Energy Generator, UST 10578 site have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, five wells (12-162, 12-163, 12-197, 12-198, and 12-252) were gauged monthly from May 2007 through September 2010, concurrently with free product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. Between October 2005 and September 2010, free product has been detected in six of the eight wells, 12-162, 12-163, 12-197, 12-198, 12-252, and 12-253, at the site. The maximum measured thickness of free product reported at the site since October 2005 was 0.92 foot, in well 12-198 in September 2008. The maximum measured thickness of free product reported in wells 12-162, 12-163, 12-197, 12-252, and 12-253 was 0.75 foot in September 2006, 0.29 foot in September 2006, 0.61 foot in September 2006, 0.19 foot in September 2006, and 0.01 foot in September

2008, respectively. Free product has not been detected at wells 12-162 and 12-197 since September 2006.

Free-Product Recovery. Interim free-product recovery at the SA 88, P-70 Energy Generator, UST 10578 site ceased in June 2000, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the draft free-product recovery closure report (U.S. Navy 2000b). However, the final decision document for this site specified that annual free-product recovery be performed as part of the scheduled annual groundwater monitoring activities (U.S. Navy and ADEC 2005a). Furthermore, the decision document states that free product will be removed in wells with measured free-product thicknesses above 0.5 foot in a 2-inch well and 0.1 foot in a 4- or 6-inch well. In May of 2007, the ADEC requested that the Navy resume monthly free-product recovery at selected wells, including wells 12-162, 12-163, 12-197, 12-198, and 12-252. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 Through 2010.”

Free product was recovered from well 12-198 during annual groundwater monitoring events in September 2006, September 2007, and September 2008 from wells 12-162 and 12-197 during the September 2006 annual groundwater monitoring event and from wells 12-162, 12-163, and 12-198 during monthly free-product recovery activities that occurred between May 2007 and September 2010. Approximately 1.85 gallons of free product were recovered from 12-198 during the annual groundwater monitoring events from October 2005 through September 2010. Approximately 0.25 and 0.50 gallon of free product was recovered from wells 12-162 and 12-197, respectively, during the September 2006 annual groundwater monitoring event. Approximately 0.14, 0.26, and 3.84 gallons were recovered during the monthly free-product recovery activities from May 2007 through September 2010 from wells 12-162, 12-163, and 12-198, respectively. Therefore, the total volume of free product recovered from the SA 88, P-70 Energy Generator, UST 10578 site for the period October 2005 through September 2010 was 6.84 gallons. The maximum volume of free product was recovered from well 12-198 during this time period. Furthermore, the maximum volume was recovered from well 12-198 for the period from October 2009 through September 2010. It should also be noted that free product was recovered in September 2004 from well 12-198 during additional groundwater sampling required by the decision document. The report describing these activities was not available when the last 5-year review was prepared. Therefore, this information is provided here. Approximately 1.21 gallons of free product was recovered from well 12-198 during the September 2004 sampling event.

From 2006 through 2007, free product was not always recovered from wells 12-198 and 12-252 when free-product thicknesses were greater than 0.1 feet. Wells 12-198 and 12-252 are 4-inch-diameter wells. During the 2006 annual groundwater monitoring event, free product was not recovered from well 12-252, though the product thickness was 0.19 foot. During the August

2007 and October 2007 monthly free-product recovery activities, free product was not recovered from well 12-198 even though the product thicknesses were 0.48 and 0.41 foot, respectively. Since October 2007, free product has been recovered from all wells as required by the decision document.

Future Monitoring Recommendations

The DRO concentrations in source area wells were less than endpoint criterion, which is based on 10 times the ADEC groundwater cleanup level, from 2006 through 2010. In addition, free product has not been detected at thicknesses greater than 0.5 foot during the last two years of monthly free-product recovery activities. Since DRO concentrations have remained less than the endpoint criterion in all on-site wells for at least two consecutive sampling events, and only trace amounts of observed free product persist at this site, it is recommended that monitoring at this site be discontinued.

6.4.16 South of Runway 18-36 Area

Data Review

Data Collection During This 5-Year Review Period. The Navy conducted annual monitoring at the South of Runway 18-36 Area site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected passive free-product recovery and containment, monitored natural attenuation for groundwater, natural recovery for surface water and sediment, and ICs as the final remedy for this site (U.S. Navy and ADEC 2006c). In addition, the decision document specified that a free-product recovery trench would be installed at the site adjacent to South Sweeper Creek for product recovery and seven new wells would be installed at the site for surface water protection monitoring, natural attenuation monitoring, and free-product recovery.

Groundwater samples were collected during the annual groundwater monitoring activities at this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times the Alaska groundwater cleanup levels [18 AAC 75.345]), to evaluate natural attenuation parameters, and to evaluate groundwater quality downgradient of the site to serve as a warning for potential impacts to the downgradient surface water body (South Sweeper Creek). Sediment and surface water samples were collected during the annual monitoring activities at this site to evaluate the natural recovery of surface water and sediments in South Sweeper Creek relative to endpoint criteria established in the decision document and ADEC surface water quality criteria.

Groundwater samples were collected from wells 02-231, 02-232, AS-1, E-208, E-218, and RW-18/36-03 for surface water protection and natural attenuation monitoring. Monitoring was conducted annually in these wells, except for in wells AS-1, E-208, and RW-18/36-03. A sample was not collected from well AS-1 in 2006, because of the presence of free product. Samples were not collected from E-208 in 2008 and 2010, because the frequency of monitoring was reduced to every other year (odd years) following the 2007 groundwater monitoring event because endpoint criteria had not been exceeded in this well during any of the monitoring events. A sample was not collected from well RW-18/36-03 in 2007, because well 18/36-03 was inadvertently sampled instead of RW-18/36-03. DRO, GRO, BTEX, TAH, and TAqH analyses were conducted at all surface water protection monitoring wells from 2006 through 2009. Following the 2009 annual groundwater monitoring event, sampling for GRO was discontinued at the surface water protection monitoring wells, because GRO had not been detected at concentrations above the endpoint criterion in any groundwater samples collected at the site for at least four consecutive sampling events. Therefore, samples collected from this site were only analyzed for DRO, BTEX, TAH, and TAqH in 2010. NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009.

Groundwater samples were collected from wells 18/36-05, E-206, and MRP-12 for natural attenuation monitoring. Monitoring was conducted annually in these 3 wells in 2006 and 2007. Following the 2007 annual groundwater monitoring event, the frequency of monitoring was reduced to every other year (odd years), because endpoint criteria had not been exceeded in these three wells during any of the monitoring events. Sampling at wells MRP-12, 18/36-05, and E-206 was discontinued following the 2009 groundwater monitoring event, because contaminant concentrations had remained below endpoint criteria for at least four sampling events and because NAPs data indicated that natural attenuation was progressing on site. Samples collected from these three wells were analyzed for DRO during every monitoring event. NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009.

Surface water and sediment samples were collected annually from locations 852, NSWSD-01, NSWSD-02, NSWSD-03, NSWSD-04, NSWSD-05, NSWSD-06, NSWSD-07, and NSWSD-08 for natural recovery monitoring. DRO, GRO, TAH, TAqH, and indeno(1,2,3-cd)pyrene analyses were conducted at all surface water monitoring locations from 2006 through 2009. DRO, GRO, 2-methyl naphthalene, and phenanthrene analyses were conducted at all sediment monitoring locations from 2006 through 2009. Following the 2009 monitoring event, GRO analysis was discontinued because GRO had not been detected at concentrations above the endpoint criterion in any surface water or sediment samples collected at the site for at least four consecutive sampling events. In addition, a one-time surface water sample was collected in 2007 at new location NL-02 from the discharge side of the transfer pump between West Canal and South Sweeper Creek and analyzed for DRO, TAH, TAqH, and TSS. The purpose of this sample was to determine whether contaminants were migrating from West Canal to South Sweeper Creek. Shoreline inspections were conducted annually from 2006 through 2010.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells and surface water and sediment monitoring locations at the South of Runway 18-36 Area site relative to site features. Wells E-218, 02-231, AS-1, 02-232, RW-18/36-03, and E-208 are located along the shoreline of South Sweeper Creek or Sweeper Cove from north to south. Wells E-206, 18/36-05, and MRP-12 are located upgradient of the source area from north to south. Surface water and sediment sampling locations NSWSD-08, NSWSD-01, NSWSD-02, NSWSD-03, NSWSD-04, NSWSD-05, 852, NSWSD-06, NSWSD-07 are located with South Sweeper Creek from north to south. NSWSD-08 is located upgradient of the South of Runway 18-36 Area site. All other surface water and sediment sampling locations are downgradient of the source area.

Groundwater Sampling Results. GRO, benzene, toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from all wells during this 5-year review period. DRO concentrations were below the endpoint criterion in all samples collected from wells 02-232, 18/36-05, AS-1, E-206, E-208, E-218, RW-18/36-03, and MRP-12 during this 5-year review period. TAH and TAqH concentrations were below their respective surface water quality criteria in all samples collected from wells 02-232, 18/36-05, E-206, E-208, E-218, RW-18/36-03, and MRP-12 during this 5-year review period.

DRO was reported in groundwater samples collected at well 02-231 from 2006 to 2010 at concentrations ranging from 6,700 to 20,000 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well were greater than the endpoint criterion of 15,000 μg/L in 2006, 2007, and 2008. TAH was reported in groundwater samples collected at well 02-231 from 2006 to 2010 at concentrations ranging from 287 to 395 μg/L. The highest TAH concentration in this well was measured in the 2009 sample. The TAH concentrations in this well have consistently been greater than the ADEC surface water criterion of 10 μg/L during this 5-year review period. TAqH was reported in groundwater samples collected at well 02-231 from 2006 to 2010 at concentrations ranging from 291 to 646.4 μg/L. The highest TAqH concentration in this well was measured in the 2010 sample. The TAqH concentrations in this well have consistently been greater than the ADEC surface water quality criterion of 15 μg/L.

TAH was reported in groundwater samples collected at well AS-1 from 2006 to 2010 at concentrations ranging from 31.6 to 86 μg/L. The highest TAH concentration in this well was measured in the 2007 sample. The TAH concentrations in this well have consistently been greater than the ADEC surface water criterion of 10 μg/L during this 5-year review period. TAqH was reported in groundwater samples collected at well AS-1 from 2006 to 2010 at concentrations ranging from 51.8 to 286 μg/L. The highest TAqH concentration in this well was measured in the 2009 sample. The TAqH concentrations in this well have consistently been greater than the ADEC surface water quality criterion of 15 μg/L.

DRO concentrations at well 02-231 were generally stable from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria or for wells for which there were less than four data points. Furthermore, statistical trend evaluations were not performed for TAH and TAqH. However, TAH and TAqH concentrations in well 02-231 appear to be increasing and in well AS-1 appear to be stable.

Surface Water Sampling Results. GRO, indeno(1,2,3-cd)pyrene, TAH, and TAqH were not detected above endpoint criteria in any of the surface water samples collected at surface water sampling locations 852 and NSWSD-01 through NSWSD-08 during this 5-year review period. DRO was not detected above its endpoint criterion in any of the surface water samples collected at sampling locations NSWSD-01 and NSWSD-03 through NSWSD-08 during this 5-year review period. DRO, TAH, and TAqH were not detected above endpoint criteria in the one-time surface water sample collected at location NL-02 in 2007.

DRO was reported in surface water samples collected at location NSWSD-02 from 2006 through 2010 at concentrations ranging from 29 to 260 μg/L. The highest DRO concentration was measured in the 2006 sample, which was the only sample that exceeded the endpoint criterion at this location during this 5-year review period. DRO was reported in surface water samples collected at location 852 from 2006 through 2010 at concentrations ranging from 84 to 1,000 μg/L. The highest DRO concentration at this location was measured in the 2009 sample. The DRO concentrations in surface water at this location were above the endpoint criterion in samples collected in 2006, 2009, and 2010. Since NSWSD-03 through NSWSD-07 did not exceed the endpoint criterion for DRO, and location 852 is closer to SWMU 60 than the South of Runway 18-36 Area site, it is probable that exceedances at location 852 are associated with SWMU 60.

Sediment Sampling Results. GRO was not detected above the endpoint criterion in any of the sediment samples collected at any of the sediment sampling locations at the site. 2-Methylnaphthalene was not detected above the endpoint criterion in any of the sediment samples collected at locations NSWSD-03 through NSWSD-08. Phenanthrene was not detected above the endpoint criterion in any of the sediment samples collected at locations NSWSD-01 through NSWSD-08. DRO was not detected above the endpoint criterion in any of the sediment samples collected at locations NSWSD-06 and NSWSD-07.

DRO was reported in sediment samples collected at location NSWSD-01 from 2006 to 2010 at concentrations ranging from 22 to 14,000 mg/kg. The highest DRO concentration at this location was measured in the 2009 sample. The DRO concentrations at this location were greater than endpoint criterion of 90.5 mg/kg in 2006, 2007, 2009, and 2010. 2-Methylnapthalene was reported in sediment samples collected at location NSWSD-01 from 2006 to 2010 at concentrations ranging from 0.00088 to 0.023 mg/kg. The highest 2-methylnaphthalene concentration at this location was measured in the 2009 sample. The

2-methylnaphthalene concentration at this location was greater than endpoint criterion of 0.0202 mg/kg in 2009.

DRO was reported in sediment samples collected at location NSWSD-02 from 2006 to 2010 at concentrations ranging from 270 to 15,000 mg/kg. The highest DRO concentration at this location was measured in the 2009 sample. The DRO concentrations at this location were consistently greater than endpoint criterion of 90.5 mg/kg during this 5-year review period. 2-Methylnapthalene was reported in sediment samples collected at location NSWSD-02 from 2006 to 2010 at concentrations ranging from 0.0032 to 0.14 mg/kg. The highest 2-methylnaphthalene concentration at this location was measured in the 2009 sample. The 2-methylnaphthalene concentration at this location was greater than endpoint criterion of 0.0202 mg/kg in 2009.

DRO was reported in sediment samples collected at location 852 from 2006 to 2010 at concentrations ranging from 260 to 4,100 mg/kg. The highest DRO concentration at this location was measured in the 2010 sample. The DRO concentrations at this location were consistently greater than endpoint criterion of 90.5 mg/kg during this 5-year review period. 2-Methylnapthalene was reported in sediment samples collected at location 852 from 2006 to 2010 at concentrations ranging from 0.0068 to 0.19 mg/kg. The highest 2-methylnaphthalene concentration at this location was measured in the 2010 sample. The 2-methylnaphthalene concentration at this location was greater than endpoint criterion of 0.0202 mg/kg in 2010. Phenanthrene was reported in sediment samples collected at location 852 from 2006 to 2010 at concentrations ranging from 0.031 to 0.6 mg/kg. The highest phenanthrene concentration at this location was measured in the 2007 sample. The phenanthrene concentrations at this location were greater than endpoint criterion of 0.225 mg/kg in 2007 and 2010. As discussed for the surface water sampling results, it is probable that exceedances at location 852 are associated with SWMU 60. Furthermore, the 2010 CMP only includes monitoring at location 852 for SWMU 60.

DRO was reported in sediment samples collected at location NSWSD-03 from 2006 to 2010 at concentrations ranging from 74 to 2,000 mg/kg. The highest DRO concentration at this location was measured in the 2010 sample. The DRO concentrations at this location were greater than endpoint criterion of 90.5 mg/kg in 2007, 2008, 2009, and 2010. DRO was reported in sediment samples collected at location NSWSD-04 from 2006 to 2010 at concentrations ranging from 120 to 330 mg/kg. The highest DRO concentration at this location was measured in the 2006 sample. The DRO concentrations at this location were consistently greater than endpoint criterion of 90.5 mg/kg during this 5-year review period. DRO was reported in sediment samples collected at location NSWSD-05 from 2006 to 2010 at concentrations ranging from 36 to 340 mg/kg. The highest DRO concentration at this location was measured in the 2010 sample. The DRO concentrations at this location were greater than endpoint criterion of 90.5 mg/kg in 2006, 2007, 2009, and 2010. DRO was reported in sediment samples collected at location NSWSD-08 from

2006 to 2010 at concentrations ranging from 94 to 380 mg/kg. The highest DRO concentration at this location was measured in the 2008 sample. The DRO concentrations at this location were consistently greater than endpoint criterion of 90.5 mg/kg during this 5-year review period.

Visual Inspections. Visual inspections of the shoreline of South Sweeper Creek were performed annually during this 5-year review period. During the 2006 monitoring event, localized sheens were observed on the sediment adjacent to the NSWSD-4 and NSWSD-8 sampling locations, a petroleum seep was observed adjacent to the NSWSD-5 sampling location, black subsurface sediment was observed in the area of sample location 852, and petroleum sheens were observed on the surface water adjacent to sample locations NSWSD-8, NSWSD-5, and 852. During the 2007 monitoring event, one seep was identified near sampling location 852 (indicating possible migration of petroleum contaminants in the area of SWMU 60 to surface water near location 852), odors were observed in the area of sample locations 852, RW-18/36-03, and NSWSD-06, and petroleum sheens were observed on the surface water adjacent to sample locations 852, RW-18/36-03, NSWSD-02, NSWSD-05, and NSWSD-06. During the shoreline inspection conducted in 2008, odor and sheen were observed along the shoreline of South Sweeper Creek at sediment sampling locations NSWSD-4 and 852. Petroleum sheen, but no seep, was observed in South Sweeper Creek during the 2009 shoreline inspection near sampling location NSWSD-04. Additionally, petroleum sheen and odor were observed along the shoreline adjacent to South of Runway 18/36 at sediment sample locations NSWSD-1 through NSWSD-06 when the sediment was disturbed. A sulfur odor but no seep or sheen, was observed in South Sweeper Creek during the 2010 shoreline inspection downgradient of the South of Runway 18/36 Area product recovery trench. Oily sediments, petroleum sheen, and odor were observed along the shoreline adjacent to South of Runway 18/36 at sediment sample locations NSWSD-1 through NSWSD-05 when the sediment was disturbed during sampling activities.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the South of Runway 18-36 Area site. Free-product recovery is a component of the final remedy for this site (U.S. Navy and ADEC 2006c). Therefore, monthly monitoring and free-product recovery were performed at this site during this 5-year review period. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness Summary 2006 Through 2010.” The following summarizes the significant product thickness data for the South of Runway 18-36 Area site.

Between June 1997 and September 2010, monitoring wells within the vicinity of the South of Runway 18-36 Area site have been gauged periodically for the presence of free product.

However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, 26 wells were gauged monthly from September 2006 through September 2008, 17 wells were gauged monthly from October 2008 through September 2009, and 14 wells were gauged monthly from October 2009 through September 2010 as part of final remedy implementation (free-product recovery). The frequency of product thickness measurements at nine wells (18/36-01, 18/36-02, 18/36-03, RW-18/36-01, RW-18/36-02, RW-18/36-03, RW-18/36-05, RW-18/36-06, and RW-18/36-07) was decreased from monthly to annually after September 2008, because free product had not been observed for six months in these wells. The frequency of product thickness measurements at well AS-1 was decreased from monthly to annually after September 2009, because free product had not been observed for 12 months in this well. The frequency of product thickness measurements at well RW-18/36-01 was increased to monthly in October 2009, because free product was detected in this well during the 2008 annual groundwater monitoring event and because it was inadvertently dropped from the monthly monitoring program. The October 2008 to September 2009 remedial action summary report recommended that monthly monitoring and free-product recovery activities at well Z3-2 should be initiated, because 0.17 foot of product was observed in this well during the September 2009 annual groundwater monitoring event. Monitoring in this well was initiated in October 2010. Continued monitoring of E-213, E-215, RW-18/36-04 was also recommended in the September 2009 annual groundwater monitoring event. Although monitoring of these wells was discontinued in October 2009, it was restarted in October 2010.

Between October 2005 and September 2010, free product has been detected in 26 wells at the site. The maximum measured thickness of free product reported at the site since October 2005 was 1.78 feet, in well E-216 in September 2010. The maximum measured thickness of free product reported in other site wells where free product was measured at thicknesses greater than 0.1 foot was the following:

- 0.37 foot in September 2006 at 02-231
- 0.28 foot in September 2006 at AS-1
- 0.3 foot in March 2007 at 18/36-R2
- 0.52 foot in September 2007 at E-215
- 0.86 foot in February 2008 at E-207
- 0.31 foot in July 2008 at E-217
- 0.45 foot in February 2008 at RW-18/36-01
- 1.75 feet in March 2009 at E-209
- 0.17 foot in September 2009 at Z3-2
- 0.22 foot in September 2010 at RW-18/36-04

Free-Product Recovery. Interim free-product recovery at this site was conducted between June 1997 and July 2005, using passive recovery devices installed in site wells. Interim free-product recovery efforts were discontinued in July 2005, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the final closure report for interim action free-product recovery (U.S. Navy 2006c). Free-product recovery was selected as part of the final remedy for the site in the decision document (U.S. Navy and ADEC 2006c). These additional free-product recovery activities were implemented at the site in September 2006. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 Through 2010."

Free-product recovery activities were performed at 26 wells at South of Runway 18-36 Area site during monthly free-product recovery activities from September 2006 through September 2008, at 17 wells during monthly free-product recovery activities from October 2008 to September 2009, and at 14 wells from October 2009 through September 2010. Monthly product recovery activities were discontinued at nine wells (18/36-01, 18/36-02, 18/36-03, RW-18/36-01, RW-18/36-02, RW-18/36-03, RW-18/36-05, RW-18/36-06, and RW-18/36-07) after September 2008, because free product had not been observed for 6 months in these wells. Monthly product recovery activities were discontinued at well AS-1 after September 2009, because free product had not been observed for 12 months in this well. Monthly product recovery activities were restarted at well RW-18/36-01 in October 2009, because free product was detected in this well during the 2008 annual groundwater monitoring event and because it was inadvertently dropped from the monthly product-recovery program. The October 2008 to September 2009 remedial action summary report recommended that monthly monitoring and free-product recovery activities should be initiated at well Z3-2, since 0.17 foot of product was observed in this well during the September 2009 annual groundwater monitoring event. Monitoring in this well was initiated in October 2010. Continued monitoring of E-213, E-215, and RW-18/36-04 was also recommended in the September 2009 annual groundwater monitoring event. Although monitoring of these wells was discontinued in October 2009, it was restarted in October 2010.

No free product was recovered from the South of Runway 18-36 Area site during the annual groundwater monitoring events from 2006 through 2010. From September 2006 through September 2008, approximately 2.39, 0.01, 0.09, 0.23, 6.20, 4.9, 0.47, 7.29, 0.2, and 0.78 gallons were recovered during monthly free-product recovery activities from wells 02-231, 18/36-R1, 18/36-R2, 18/36-R5, E-207, E-209, E-215, E-216, E-217, and RW-18/36-01, respectively. From October 2008 through September 2009, approximately 0.4, 0.59, 1.52, and 1.4 gallons were recovered from wells 02-231, E-207, E-209, and E-216, respectively. From October 2009 through September 2010, approximately 1.17, 2.99, 3.03, and 0.44 gallons were recovered during monthly free-product recovery activities from wells E-207, E-209, E-216, and RW-18/36-01, respectively. Therefore, the total volume of free product recovered from the

South of Runway 18-36 Area site for the period October 2005 through September 2010 was 34.10 gallons. The maximum volume of free product (11.72 gallons) was recovered from well E-216 for the time period October 2005 through September 2010. In addition, 9.41 gallons were recovered from E-209 and 7.96 gallons from E-207 during this same time period.

The technically practicable endpoint for passive recovery in site wells has been met at the South of Runway 18-36 Area site. The requirement states that "the practicable endpoint for recovery will be reached when the monthly volume of recovered product, averaged over the most recent 6 months (6-month moving average), is less than 5 gallons per month for a period of 12 months of product recovery." The 6-month moving average of product recovered was less than 5 gallons per month from October 2009 through September 2010. However, the practicable endpoint for the recovery trenches has not met the endpoint criterion. Product was observed one time in one of the eight recovery sumps (18/36-R4) between October 2009 and September 2010. The endpoint criterion for the recovery sumps is that product has been reduced to less than 0.01 inch, or no sounding of the oil/water probe has been experienced for one year.

Natural Attenuation Assessment

Sulfate concentrations for plume and plume edge wells 02-231 and AS-1 are depleted (0.27 and 0.09 mg/L, respectively), compared to background (6.53 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations are elevated in well 02-321 (50 mg/L), 02-232 (30 mg/L), and AS-1 (50 mg/L), compared to background (0 mg/L), indicating the occurrence of iron reduction. Evidence of methanogenesis is observed at the South of Runway 18-36 Area site as demonstrated by elevated methane concentrations. Methane concentrations ranging from 5.3 to 8,300 μg/L at on-site wells exceed that of background (0.32 μg/L) (U.S. Navy 2010e).

The 2009 annual monitoring report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Since groundwater in all wells has been below endpoint criteria for at least 2 consecutive years, trend evaluations were not performed at this site (U.S. Navy 2011a).

Future Monitoring Recommendations

DRO was only detected above its endpoint criterion in surface water at location NSWSD-02 in 2006, and at location 852 in 2006, 2009, and 2010. As discussed above, exceedances at location 852 are most likely from SWMU 60, not from South of Runway 18-36 Area. Because concentrations of contaminants in surface water have not exceeded endpoint criteria at locations

NSWSD-01 through NSWSD-06 for four consecutive monitoring events, monitoring surface water at these locations should be discontinued. Although concentrations at NSWSD-07 and NSWSD-08 also have not exceeded endpoint criteria for four consecutive monitoring events, monitoring will be continued at these two locations. These two locations, which are located downgradient and upgradient of the site, will be monitored because concentrations of TAH and TAqH, continue to be above surface water quality criteria in surface water protection monitoring wells 02-231 and AS-1. Monitoring of location 852 is no longer part of the monitoring program for this site. This location is being monitored as part of the SWMU 60 monitoring program.

DRO, TAH, and TAqH concentrations in surface water protection well 02-231 and TAH and TAqH concentrations in surface water protection well AS-1 exceeded endpoint criteria during this 5-year review period. DRO concentrations are stable, but TAH and TAqH concentrations appear to be increasing at 02-231. However, no statistical trend analysis is currently being performed for TAH and TAqH. Therefore, trend analysis should be included in the annual monitoring reports for TAH and TAqH, if concentrations exceed endpoint criteria. Furthermore, selected wells within the area where free product has been detected in the past should be added to the monitoring program, as free product levels decline at the site. No wells within the source area are currently being monitored, and monitoring of these wells should be performed to demonstrate that natural attenuation is occurring within the source area.

DRO, 2-methylnaphthalene, and phenanthrene were detected above endpoint criteria in sediment samples collected at locations 852, NSWSD-01 through NSWSD-05, and NSWSD-08. However, no trend analysis is currently being performed for these contaminants in sediment. Therefore, trend analysis should be included in the annual monitoring reports for these compounds, if concentrations exceed endpoint criteria. Odors, seeps, and sheens have been observed during annual visual inspections. Therefore, annual monitoring should continue as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), except with the changes noted above.

Because free-product recovery activities in site wells have met the endpoint criterion, free-product recovery activities in site wells should be discontinued. However, free-product recovery in the recovery trenches has not met the endpoint criterion. The frequency of product thickness measurements and free-product recovery, if required, should be decreased from monthly to six times per year at the eight free-product recovery sumps because of low product thicknesses and recovered product volumes. Additionally, many sites are typically inaccessible during the winter months of January through March because of poor weather, snowy conditions, and icy roads. The type of free-product recovery equipment installed in each sump should be clearly documented for each month of operation in the annual remedial action summary report. More specifically, the dates of installation and removal should be included in the documentation. In addition, if bailing was used instead of an automated passive skimmer, passive skimmer, or sorbent sock, this should also be clearly documented. This information is necessary to verify whether free-product recovery activities are being performed consistent with the decision document. The recommendations for the NMCB Building Area, T-1416 Expanded Area site regarding the placement and use of product recovery equipment should also be considered by the Optimization Work Group for the South of Runway 18-36 Area site.

6.4.17 Sweeper Cove

Data Review

Data Collection During This 5-Year Review Period. The Navy has conducted marine tissue monitoring in Sweeper Cove since 1999. Initially, this monitoring was conducted annually in accordance with the OU A ROD. In 2003, the 5-year marine tissue monitoring program required by the OU A ROD was completed. The 2003 technical memorandum for marine monitoring recommended continued sampling for rock sole and blue mussel from Sweeper Cove at a frequency of every other year through the next 5-year review period to evaluate the changes in total PCB concentrations. Therefore, the Navy has conducted marine tissue monitoring at Sweeper Cove every other year from 2004 through 2010 (U.S. Navy 2010d). Marine tissue monitoring and ICs is the ROD-selected remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Blue mussel and rock sole tissue samples are collected from Sweeper Cove to document the temporal change in PCB concentrations in mussels and fish in Sweeper Cove and to determine the date for rescinding ICs advising subsistence and commercial seafood harvesters of the potential risk associated with consumption of certain species of fish and shellfish from Sweeper Cove. Marine tissue samples have been analyzed for PCB cogeners, lipid analysis, and moisture content.

Analytical Results. The mean concentration of PCBs in blue mussel tissue in 2007 and 2009 was 47.9 and 42.5 μg/kg, respectively. The mean concentration in rock sole tissue in 2007 and 2009 was 59.1 and 44.5 μg/kg, respectively. During this 5-year review period, the mean concentration of PCBs in blue mussel and rock sole tissue was above the risk-based action levels of 31 μg/kg and 6.5 μg/kg, respectively. Analytical data for marine tissue samples collected in Sweeper Cove are included in Appendix C.

Mean total PCB concentrations in blue mussel tissue from Sweeper Cove ranged from 24.4 μg/kg in 2001 to 133 μg/kg in 2005 (Appendix C). The mean total PCB concentrations detected in 1996, 1999, 2000, 2003, 2005, 2007, and 2009 were above the risk-based action level of 31 μg/kg. The mean total PCB concentrations in 2001 and 2002 were below the risk-based action level. PCB tissue concentrations in blue mussels collected from Sweeper Cove for the period 1999 through 2009 were plotted for best fit regression and trendline analysis. No statistically significant trend in the PCB concentrations was found (U.S. Navy 2010d).

Mean total PCB concentrations of rock sole data from Sweeper Cove ranged from 19.5 μg/kg in 2005 to 186 μg/kg in 1996 (Appendix C). For each sampling event, the mean concentration is above the risk-based action level of 6.5 μg/kg. PCB tissue concentrations in rock sole collected from Sweeper Cove for the period 1999 through 2009 were normally distributed and were plotted for best fit regression and trendline analysis. No statistically significant trend in the PCB concentrations was found (U.S. Navy 2010d).

Future Monitoring Recommendations

Based on the assessment of the marine tissue monitoring data collected through 2009, continued collection of blue mussel and rock sole in Sweeper Cove every other year is recommended through 2013. The 2011 data are currently being validated and evaluated. It is expected that the technical memorandum for the 2011 Adak marine monitoring (draft due in October 2011) will include a recommendation to re-evaluate the monitoring program after the 2013 sampling event.

6.4.18 SWMU 14, Old Pesticide Disposal Area

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the SWMU 14, Old Pesticide Disposal Area site from 2006 through 2010. The combination of monitored natural attenuation and compliance monitoring is the selected remedy for this site, together with ICs (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples were collected from SWMU 14, Old Pesticide Disposal Area site during annual groundwater monitoring to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to verify that natural attenuation is occurring. The natural attenuation monitoring is related to petroleum hydrocarbons observed in groundwater at the site. Groundwater samples were also collected as part of compliance monitoring to evaluate groundwater quality relative to the OU A ROD CERCLA cleanup criteria. Compliance monitoring is related to chlorinated solvents, total lead, and dissolved lead observed in groundwater at the site. Finally, the 2009 groundwater monitoring report recommended that downgradient samples be collected from this site during the 2010 groundwater monitoring event to support the evaluation of the remedy performed in the 5-year review. This monitoring was related to DRO, GRO, total lead, and dissolved lead.

Groundwater samples were collected from 01-153, 55-145, 55-146, MW14-5, and MW15-3 for DRO, GRO, and BTEX analysis; groundwater samples were collected from 01-153, 55-145, 55-146, MW14-5, and MW15-3 for total and dissolved lead analysis; and groundwater samples were collected from 01-153 and MW14-5 for NAPs analysis. Monitoring was conducted annually unless otherwise noted below. Monitoring for DRO, GRO, and BTEX in 01-153 was discontinued following the 2006 groundwater monitoring event, because these compounds had met endpoint criteria. However, free product was detected in this well during the 2007 groundwater monitoring event. Therefore, the 2007 groundwater monitoring report recommended that monitoring for these compounds be restarted in 2008. Monitoring for DRO, GRO, and BTEX in 01-153 was discontinued again following the 2008 groundwater monitoring event, because endpoint criteria had been met for four consecutive monitoring events. Since total and dissolved lead had not exceeded its endpoint criterion in well 01-153 for at least two sampling periods, sampling for these parameters at this location was discontinued after the 2009 groundwater monitoring event. Monitoring for BTEX in MW14-5 was discontinued following the 2006 groundwater monitoring event, because these compounds had met endpoint criteria. Based on the recommendation in the 2008 groundwater monitoring report, annual monitoring for DRO, GRO, and total and dissolved lead at well 55-146 was initiated in 2009 to assess downgradient migration of these contaminants. Furthermore, DRO, GRO, and total and dissolved lead monitoring was conducted at wells MW-15-3, 55-145 and 55-146 in 2010 as a one-time event to assess downgradient migration of these contaminants based on a recommendation in the 2009 groundwater monitoring report. NAPs analyses were conducted of samples collected from wells 01-153 and MW14-5 every 5 years, with the most recent sampling event occurring in 2009.

Groundwater samples were collected from 01-153 and MW14-5 for chlorinated solvents analysis. Chlorinated solvents analyses, including trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethene (DCE), cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride, were conducted annually on samples collected at well 01-153. The groundwater sample collected from MW14-5 was analyzed for methylene chloride during the 2006 groundwater monitoring event. Although the 2006 groundwater monitoring report indicated that methylene chloride had not met the endpoint criterion, monitoring for methylene chloride at this location was discontinued after the 2006 groundwater monitoring event. Presumably, this analyte was dropped from the monitoring program because it had never been detected, and the reporting limit during the 2006 groundwater monitoring event was below the OU A ROD cleanup level.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 14, Old Pesticide Disposal Area site. MW14-5 is located nearest to the inferred source area at the site and well 01-153 is located approximately 230 feet cross-gradient. Well MW15-3 is located near the inferred source area of SWMU 15, Future Jobs/DRMO and about 600 feet downgradient of well 01-153. Wells 55-145 and 55-146 are located downgradient of both the SWMU 14, Old Pesticide Disposal Area and the SWMU 15, Future Jobs/DRMO source areas. Well 55-145 is approximately 1,400 feet downgradient of well MW14-5 and well 55-146 is approximately 1,600 feet downgradient of well MW14-5.

Analytical Results. DRO and GRO concentrations were below their endpoint criteria in all samples collected from wells 01-153, 55-145, 55-146, and MW15-3 during this 5-year review period. DRO was reported in groundwater samples collected at well MW14-5 from 2006 to 2010 at concentrations ranging from 1,900 to 4,100 μg/L. The highest DRO concentration was measured in the 2007 sample from this well. The concentrations of DRO in the samples from well MW14-5 were consistently greater than the endpoint criterion of 1,500 μg/L. GRO was reported in groundwater samples collected at well MW14-5 from 2006 to 2010 at concentrations ranging from 9,000 to 15,000 μg/L. The highest GRO concentration was measured in the 2009 sample from this well. The concentrations of GRO in the samples from well MW14-5 were consistently greater than the endpoint criterion of 1,300 μg/L. BTEX concentrations were below their respective endpoint criteria in all samples collected from all wells at this site during this 5-year review period.

Methylene chloride, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, TCE, and vinyl chloride were below their OU A ROD cleanup levels in all samples collected from wells at this site during this 5-year review period. PCE was reported in groundwater samples collected at well 01-153 from 2006 to 2010 at concentrations ranging from 3.6 to 11 μg/L. The highest PCE concentration was measured in the 2006 sample from this well. The concentrations of PCE in the samples from well 01-153 were greater than the OU A ROD cleanup level of 5 μg/L in all samples collected from this well, except the sample collected in 2009.

Total and dissolved lead were below the OU A ROD cleanup level in all samples collected from wells 55-145, 55-146, and MW15-3. Total lead was reported in groundwater samples collected at well MW14-5 from 2006 to 2010 at concentrations ranging from 14.5 to 41.5 μg/L. The highest total lead concentration was measured in the 2007 sample from this well. Dissolved lead was reported in groundwater samples collected at well MW14-5 from 2006 to 2010 at concentrations ranging from 14 to 36.8 μg/L. The highest dissolved lead concentration was measured in the 2007 sample from this well. The concentrations of total and dissolved lead in the samples collected from well MW14-5 were greater than the OU A ROD cleanup level of 15 μg/L, except the sample collected in 2010. Total lead was reported in groundwater samples collected at well 01-153 from 2006 to 2010 at concentrations ranging from 3.65 to 18.7 μg/L. The highest total lead concentration was measured in the 2006 sample from this well. Dissolved lead was reported in groundwater samples collected at well 01-153 from 2006 to 2010 at concentrations ranging from 3.79 to 18.2 μg/L. The highest dissolved lead concentration was measured in the 2006 sample from this well. During the last 2 years of monitoring (in 2008 and 2009), the concentrations of total and dissolved lead in the samples collected from well 01-153 were less than the OU A ROD cleanup level of 15 μg/L.

PCE concentrations at well 01-153 exhibited a decreasing trend from 2006 through 2010. DRO and GRO concentrations at well MW14-5 exhibited a decreasing trend from 2006 through 2010. However, the trend was not statistically significant. Total and dissolved lead concentrations at well MW14-5 exhibited a statistically significant decreasing trend from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SWMU 14, Old Pesticide Disposal Area site. Although free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000), monthly monitoring and free-product recovery were performed at one well (01-153) based on a request by ADEC. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled "Summary of Product Thickness Data 2005 Through 2010" located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled "Recovered Product Thickness Summary 2006 Through 2010." The following summarizes the significant product thickness data for the SWMU 14, Old Pesticide Disposal Area site.

Between August 1999 and September 2010, monitoring wells within the vicinity of the SWMU 14, Old Pesticide Disposal Area have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, one well (01-153) was gauged monthly from October 2008 through May 2010, concurrently with free-product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. Well 01-153 was added to the monthly gauging in October 2008, based on a request by ADEC, because free product was detected in this well in September 2007. Between October 2005 and September 2010, free product has been detected in one well, 01-153, at the site. Free product was only measured once in well 01-153 in September 2007 at a thickness of 0.03 foot. The frequency of product thickness measurements at well 01-153 was decreased from monthly to annually after May 2010, because free product had not been observed at this well since September of 2007.

Free-Product Recovery. Free-product recovery is not a component of the final remedy for this site. However, in May of 2007, the ADEC requested that the Navy perform free-product recovery at selected wells, including well 01-153, as discussed above. Free-product recovery was to be performed if the measured thickness was greater than 0.5 foot in a 2-inch well and greater than 0.1 foot in a 4- or 6-inch well. Free product was recovered from well 01-153 in September of 2007 during the annual groundwater monitoring event even though the product thickness was only 0.03 foot. One-half gallon of free product was recovered in 2007 from this well. Free product was not detected in well 01-153 during any of the other annual groundwater monitoring events between October 2005 and September 2010, nor was it detected during the monthly free-product recovery activities from October 2008 through May 2010. Therefore, a total of 0.5 gallon of free product was recovered from the SWMU 14, Old Pesticide Disposal Area between October 2005 and September 2010. Monthly product thickness measurements and free-product recovery, if required, were discontinued in well 01-153 after May 2010, because free product had not been observed in this well since September 2007. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 Through 2010."

Natural Attenuation Assessment

The 2009 NAPs results show that the dissolved oxygen concentrations at the site (1 and 3 mg/L) are depleted, compared to the background condition (11 mg/L). The site wells have higher carbon dioxide concentrations (30 and 32 mg/L) than the background well E-701 (less than 10 mg/L). Alkalinity concentrations are also higher at the site wells (53 and 63 mg/L) than background (18.9 mg/L) and indicates that wells 01-153 and MW-14-5 are within the contaminant plume (U.S. Navy 2010e).

Sulfate is not depleted at this site, with concentrations higher than background (2.52 mg/L) indicating that sulfate reduction is not occurring. Additionally, the ferrous iron concentrations (2.5 and 4 mg/L) are only slightly elevated above background (0 mg/L), indicating weak iron reduction may be occurring. Methane concentrations at this site (0.99 and 13 μg/L) are similar to background (0.38 μg/L), indicating that methanogenesis is probably not occurring at the site within the plume.

The 2009 annual monitoring report concluded that these combined data show only weak evidence that biodegradation is occurring at the site, possibly by aerobic digestion and iron reduction (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation are summarized in Table 6-1. Decreasing trends were identified for DRO, GRO, and PCE concentrations in groundwater samples from well 01-153 over time. Trends were not evaluated for DRO and GRO in groundwater samples from well MW14-5. Decreasing trends were identified for total and dissolved lead in groundwater samples from well MW14-5, but the 2010 groundwater sample did not contain total and dissolved lead above the endpoint criterion (U.S Navy 2011a).

DRO and GRO were below the endpoint criteria when the last analyses were conducted on groundwater samples from 01-153. As a result, the time for DRO and GRO to meet the endpoint criteria in groundwater from well 01-153 was not estimated. The Sen's slope was calculated for PCE concentrations in groundwater samples over time from well 01-153 in the 2010 annual monitoring report (U.S. Navy 2011a). Using the median slope limit and the 2010 concentration in groundwater at well 01-153, PCE in groundwater could reach the endpoint criterion in 2011 or 2012, if the 2010 trend continues.

The Mann-Kendall and Sen’s trend evaluation was not conducted during the 2010 annual report for DRO and GRO in groundwater (U.S. Navy 2011a) from well MW14-5. Simple linear regression was applied to DRO and GRO results for groundwater samples from MW14-5, because DRO and GRO concentrations in samples from this well do show a general decreasing trend. No level of confidence is applied to the regression. Applying the slopes of the regressed lines to the 2010 concentration provides a very rough estimate for time to achieve endpoint criteria if the observed trend continues. If the current trends continue, DRO and GRO concentrations in groundwater from MW14-5 could reach the endpoint criteria in 2018 and 2029, respectively.

Future Monitoring Recommendations

DRO, GRO, total lead, and dissolved lead concentrations in well MW14-5 near the inferred source area remain above their respective endpoint criteria, which are based on the ADEC cleanup levels. No exceedance of petroleum hydrocarbons was detected in downgradient wells (55-145, 55-146, and MW15-3). (It should be noted that well 55-145 is also used for compliance monitoring of chlorinated VOCs at SWMU 55, and concentrations of PCE exceed the endpoint criterion in this well. However, this well is not used for monitoring of chlorinated VOCs at SWMU 14. It is only used for monitoring of petroleum hydrocarbons at this site.) PCE concentrations in well 01-153 remain above the endpoint criterion. All contaminants exhibited either a stable or decreasing trend at the site. Since DRO, GRO, and BTEX met endpoint criteria in well 01-153, NAPs monitoring in this well should be discontinued. (Note that the DRO, GRO, and BTEX monitoring were discontinued after the 2008 groundwater monitoring event.) Downgradient wells 55-145, 55-146, and MW15-3 should be monitored once in 2015 prior to the next 5-year review for any contaminants that remain above endpoint criteria at the site. All other monitoring should continue as prescribed in the CMP, Revision 4 (U.S. Navy 2010a) until endpoint criteria are met.

6.4.19 SWMU 15, Future Jobs/DRMO

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at one location (MW15-3) at the SWMU 15, Future Jobs/DRMO site from 2006 through 2010. The combination of monitored natural attenuation and compliance monitoring is the selected remedy for this site, together with ICs (U.S. Navy, USEPA, and ADEC 2000). The ADEC and EPA concurred with the 2003 recommendation to discontinue monitored natural attenuation for petroleum hydrocarbons. The ADEC and EPA also concurred with the 2003 recommendation to discontinue compliance monitoring for chlorinated solvents and methylene chloride at MW15-424 and compliance monitoring for methylene chloride at well MW15-3. As a result, annual compliance monitoring for chlorinated solvents (TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride) at MW15-3 is the only monitoring that has been conducted at this site since 2004. The CMP, Revision 4 (U.S. Navy 2010a) specified that sampling of downgradient well MW15-424 was to be performed in 2010 to support the evaluation of the remedy performed in the 5-year review. This location was inadvertently not included in the scope for the 2010 groundwater monitoring event.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 15, Future Jobs/DRMO site. Well MW15-3 is located near the inferred source area, and well MW15-424 is located approximately 420 feet downgradient of MW15-3.

Analytical Results. Groundwater samples were collected as part of compliance monitoring to evaluate groundwater quality relative to the OU A ROD CERCLA cleanup criteria. 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride were below OU A ROD cleanup levels in all samples collected from MW15-3 during this 5-year review period. PCE was reported in groundwater samples collected at well MW15-3 from 2006 to 2010 at concentrations ranging from 3.1 to 8.1 μg/L. The highest PCE concentration was measured in the 2009 sample from this well. The concentrations of PCE in the samples from well MW15-3 were greater than the OU A ROD cleanup level of 5 μg/L in all samples collected from this well, except the samples collected in 2008 and 2010. TCE was reported in groundwater samples collected at well MW15-3 from 2006 to 2010 at concentrations ranging from 2.7 to 8 μg/L. The highest TCE concentration was measured in the 2007 sample from this well. The concentrations of TCE in the samples from well MW15-3 were greater than the OU A ROD cleanup level of 5 μg/L in samples collected from this well in 2007 and 2008.

PCE concentrations at well MW15-3 exhibited a decreasing trend from 2006 through 2010. However, the trend is not statistically significant. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria, or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SWMU 15, Future Jobs/DRMO site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. Free product was not detected at this site during this 5-year review period.

Natural Attenuation Assessment

The 2009 NAPs results show that the dissolved oxygen concentration at the site (3 mg/L) is depleted, compared to the background condition (11 mg/L). The site well also has an elevated carbon dioxide concentration (24 mg/L), compared to the background well E-701 (less than

10 mg/L), indicating that aerobic digestion has occurred. The alkalinity concentration is also higher at the site well (136 mg/L) than background (18.9 mg/L), and indicates that well MW-15-3 is within the contaminant plume (U.S. Navy 2010e).

Sulfate is not depleted at this site and the on-site concentration (19.2 mg/L) is higher than background (2.52 mg/L), indicating that sulfate reduction is not occurring. Additionally, no ferrous iron was detected in well MW15-3, indicating no iron reduction is occurring. Methane was also undetected at this site (0.50 μg/L), indicating that methanogenesis is also not occurring at the site (U.S. Navy 2010e).

That 2009 annual monitoring report concluded these combined data show only weak evidence that biodegradation may be occurring at the site through aerobic digestion. However, cis-1,2-DCE and trans-1,2-DCE have been detected at very low concentrations in groundwater onsite and are breakdown products of PCE and TCE. PCE and TCE continue to exhibit decreasing concentration trends in groundwater while trans- and cis-1,2-DCE have remained at or below detection limits. The decreasing concentrations of PCE and TCE, coupled with the stable trends in degradation products, is an indication that natural attenuation is occurring in groundwater, and demonstrates that dechlorination is most likely taking place at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation (U.S. Navy 2011a) are summarized in Table 6-1. PCE was below the endpoint criterion in the 2010 groundwater sample from well MW15-3 and, therefore, no Sen's slope was calculated.

Future Monitoring Recommendations

PCE and TCE concentrations have decreased, but were still measured intermittently at concentrations greater than the OU A ROD cleanup levels over this 5-year review period. Annual monitoring should continue as prescribed by the CMP, Revision 4 (U.S. Navy 2010a). Since MW15-424 was not sampled in 2010, this location should be sampled in 2011 to verify that contaminants are not migrating to this downgradient well at concentrations above the OU A ROD cleanup levels. In addition, downgradient well MW15-424 should be monitored once in 2015 prior to the next 5-year review, if chlorinated solvent concentrations remain above the OU A ROD cleanup levels at the site.

6.4.20 SWMU 17, Power Plant No. 3 Area

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at SWMU 17, Power Plant No. 3 Area from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery for petroleum and compliance monitoring for nonpetroleum chemicals (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC selected ICs and monitored natural attenuation as the final remedy for this site (U.S. Navy and ADEC 2007). Groundwater samples were collected from SWMU 17, Power Plant No. 3 Area during annual groundwater monitoring to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times the Alaska groundwater cleanup levels [18 AAC 75.345]) and to verify that natural attenuation is occurring. The natural attenuation monitoring is related to petroleum hydrocarbons observed in groundwater at the site. Groundwater samples were also collected as part of compliance monitoring to evaluate groundwater quality relative to the OU A ROD CERCLA cleanup criteria. Compliance monitoring is related to chlorinated solvents observed in groundwater at the site.

Groundwater samples were collected from 05-375, 05-810, 05-811, 05-815, HC-2, HC-3, PP-05, R-1, R-2, R-5, and R-6 for DRO, GRO, and BTEX analysis, and groundwater samples were collected from 05-375, HC-2, HC-3, PP-05, R-1, R-2, R-5, and R-6 for NAPs analysis. Surface water protection monitoring for DRO, GRO, and BTEX in wells 05-375, 05-810, 05-811, 05-815 was discontinued following the 2006 groundwater monitoring event. Interim petroleum monitoring for DRO in wells R-1 and R-6 was also discontinued following the 2006 groundwater monitoring event (a sample was not collected from well R-6 during the 2006 monitoring event because of the presence of free product in the well). Surface water protection monitoring and interim petroleum monitoring were replaced with natural attenuation monitoring in 2007 as part of the implementation of the final remedy at the site. Natural attenuation monitoring was initiated in wells 05-375, HC-2, HC-3, PP-05, R-1, R-2, R-5, and R-7. Samples collected from these wells were analyzed for DRO. Initially, monitoring was conducted in all eight wells annually. Following the 2007 groundwater monitoring event, the frequency of monitoring was reduced to every other year (even years) in wells 05-375, R-1, and R-2. However, samples were not collected in well HC-2 in 2007 and in well PP-05 in 2007 and 2008, because free product was present in these wells during those monitoring events. NAPs analysis was conducted every 5 years, with the most recent sampling event occurring in 2009.

Groundwater samples were collected from well 05-735 for chlorinated solvents analysis. Chlorinated solvents analyses, including methylene chloride, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride, were conducted annually on samples collected at this well.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at SWMU 17, Power Plant No. 3 Area. Wells 05-375, HC-2, HC-3, PP-05, R-1, R-2, R-5, and R-6 are installed within the dissolved petroleum plume or within the area of residual free product northeast from the Power Plant building. Wells 05-810, 05-811, and 05-815 are located downgradient from the dissolved petroleum plume in close proximity to downgradient surface water bodies. These wells are located approximately 125, 200, and 60 feet, respectively, upgradient from the downgradient surface water bodies. Well 05-735 is located approximately 50 feet downgradient from Building 10203, which formerly contained a dry cleaning facility.

Analytical Results. DRO, GRO, and BTEX concentrations were below their respective endpoint criteria in all samples collected from surface water protection monitoring locations (05-375, 05-810, 05-811, and 05-815) during the 2006 groundwater monitoring event. (Note that wells 05-810, 05-811, and 05-815 were only sampled in 2006, and well 05-375 was only sampled for GRO and BTEX in 2006.) DRO concentrations were below its endpoint criterion in all samples collected from all site wells during this 5-year review period.

Methylene chloride, TCE, 1,1-DCE, and trans-1,2-DCE were below OU A ROD cleanup levels in all samples collected from well 05-735 during this 5-year review period. PCE was reported in groundwater samples collected at well 05-735 from 2006 to 2010 at concentrations ranging from 1.3 to 8.5 μg/L. The highest PCE concentration was measured in the 2006 sample from this well. The concentrations of PCE in the samples from well 05-735 were less than the OU A ROD cleanup level of 5 μg/L, except the sample collected in 2006. cis-1,2-DCE was reported in groundwater samples collected at well 05-735 from 2006 to 2010 at concentrations ranging from 340 to 570 μg/L. The highest cis-1,2-DCE concentration was measured in the 2007 sample from this well. The concentrations of cis-1,2-DCE in all samples from well 05-735 were greater than the OU A ROD cleanup level of 100 μg/L. Vinyl chloride was reported in groundwater samples collected at well 05-735 from 2006 to 2010 at concentrations ranging from 3.4 to 7.4 μg/L. The highest vinyl chloride concentration was measured in the 2006 sample from this well. The concentrations of vinyl chloride in all samples from well 05-735 were greater than the OU A ROD cleanup level of 2 μg/L.

Vinyl chloride and cis-1,2-DCE concentrations have generally been stable from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including SWMU 17, Power Plant No. 3 Area. Although free-product recovery is not a component of the final remedy for this site (U.S. Navy and ADEC 2007), monthly monitoring and free-product recovery were performed at two wells (HC-02 and PP-05), based on a request by ADEC. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled "Summary of Product Thickness Data 2005 Through 2010" located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled "Recovered Product Thickness Summary 2006 Through 2010." The following summarizes the significant product thickness data for the SWMU 17, Power Plant No. 3 site.

Between March 1993 and September 2010, monitoring wells within the vicinity of SWMU 17, Power Plant No. 3 Area have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, two wells (HC-02 and PP-05) were gauged monthly from October 2008 through May 2010, concurrently with free-product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. These wells were added to the monthly gauging in October 2008, based on a request by ADEC, because free product was detected in these wells during the September 2007 annual groundwater monitoring event.

Between October 2005 and September 2010, free product has been detected in six wells at the site: 05-375, HC-02, PP-05, R-1, R-2, and R-6. The maximum measured thickness of free product reported at the site since October 2005 was 0.43 feet, in well PP-05 in March 2009. The maximum measured thickness of free product reported in wells 05-375, HC-02, R-1, R-2, and R-6 was 0.01 foot in September 2010, 0.03 foot in September 2007, 0.01 foot in September 2010, a trace in September 2009 and September 2010, and 0.03 foot in September 2006, respectively. The frequency of product thickness measurements at wells HC-02 and PP-05 was decreased from monthly to annually after May 2010, because free product had not been observed at these wells since September of 2007 and January 2009, respectively.

Free-Product Recovery. Interim free-product recovery at the SWMU 17, Power Plant No. 3 Area was discontinued in July 2002, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the draft free-product recovery closure report (U.S. Navy 2002). In addition, free-product recovery is not a component of the final remedy for this site. However, following the September 2007 annual groundwater event, the Navy added HC-02 and PP-05 to the list of wells identified for monthly free-product recovery, based on a request by ADEC. Free-product recovery was to be performed if the measured thickness is greater than 0.5 foot in a 2-inch well and greater than 0.1 foot in a 4- or 6-inch well. Although well PP-05 is a 2-inch well and measured thicknesses above 0.5 foot have not been detected, the Navy performed free-product recovery at this well in March 2009 as part of the monthly free-product recovery activities. A total of 0.1 gallon of free product was recovered from this well. Since free product was not recovered from PP-05 during any other months of this 5-year review period and free product was not recovered from any of the other wells at the site because product thicknesses were less than 0.1 foot, the total volume of free product recovered from SWMU 17, Power Plant No. 3 Area for the period October 2005 through September 2010 is 0.1 gallon. Monthly product thickness measurements and free-product recovery, if required, were discontinued in wells HC-02 and PP-05 after May 2010, because free product had not been observed in well HC-02 since September 2007 and in well

PP-05 since January 2009, and only 0.1 gallon of free product was recovered from well PP-05 from October 2008 through May 2010. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 Through 2010.”

Natural Attenuation Assessment

With one exception, sulfate concentrations for the site are depleted (0.07 to 1.30 mg/L), compared to background (2.52 mg/L), indicating that sulfate reduction is occurring at the site. Except at well R-2 where ferrous iron was not detected, on-site ferrous iron concentrations (6 to 50 mg/L) are elevated, compared to background (0 mg/L), indicating the occurrence of iron reduction. Strong evidence of methanogenesis is observed at the SWMU 17, Power Plant No. 3 site, as demonstrated by elevated methane concentrations in on-site wells (74 to 3,300 μg/L), compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual monitoring report concluded these combined data strongly indicate that biodegradation of petroleum hydrocarbons is occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates that natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen’s trend evaluation (U.S. Navy 2011a) are summarized in Table 6-1. DRO was not measured at concentrations above the endpoint criterion in any of the groundwater samples from wells sampled during 2010. PCE was not measured at a concentration above the endpoint criterion in the groundwater sample from well 05-735 during 2010. A decreasing trend was identified for cis-1,2-DCE and vinyl chloride in groundwater samples from well 05-735. However, the data do not support calculation of the Sen’s slope. The data also do not support the use of simple linear regression to estimate the time when endpoint criteria might be achieved for cis-1,2-DCE or vinyl chloride in groundwater samples from well 05-735.

Future Monitoring Recommendations

DRO has been below the endpoint criterion, which is based on 10 times the ADEC groundwater cleanup level, in all wells at this site during this 5-year review period. Groundwater parameter data strongly indicate that anaerobic biodegradation is occurring at the site. Monthly free-product recovery activities performed at this site from October 2009 to May 2010 yielded no recovered product. Product in site wells was observed only twice during the monthly free-product recovery activities at 0.02 foot or less. Free product was detected during annual groundwater monitoring events at thicknesses less than or equal to 0.01 foot over the last two monitoring events. Based on these observations, it is recommended that DRO monitoring be discontinued at wells HC-1, HC-2, HC-3, and R-2 through R-6. Because trace amounts of free product continue to be detected at the site, monitoring at locations PP-05, R-1, and 05-375 should be continued at the site at a reduced frequency of every other year. Groundwater samples from well 05-735 have contained PCE, cis-1,2-DCE, and vinyl chloride at concentrations greater than the OU A ROD cleanup levels during this 5-year review period. Therefore, annual monitoring should be continued as specified in the CMP, Revision 4 (U.S. Navy 2010a) at well 05-735 for chlorinated VOCs.

6.4.21 SWMU 55, Public Works Transportation Department Waste Storage Area

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at two locations (55-145 and 55-146) at the SWMU 55, Public Works Transportation Department Waste Storage Area site from 2006 through 2010. Compliance monitoring is the selected remedy for this site, together with ICs (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples are collected from these wells to evaluate groundwater quality relative to OU A ROD CERCLA cleanup criteria.

Groundwater samples were collected from 55-145 and 55-146 for chlorinated solvents analysis. Chlorinated solvents analyses, including TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride, were conducted annually on samples collected at well 55-145. The frequency of chlorinated solvents monitoring was reduced at well 55-146 to once every other year (even years) after the 2004 sampling event, because chlorinated solvents had not been measured at concentrations greater than their reporting limits or their OU A ROD cleanup levels in any samples since compliance monitoring began at the site. However, because well 55-146 is downgradient of 55-145, where measured concentrations were above OU A ROD cleanup levels, continued monitoring at the reduced frequency was recommended in the 2004 groundwater monitoring report. Monitoring for chlorinated solvents in 55-146 was discontinued following the 2008 groundwater monitoring event, because concentrations of contaminants have not exceeded endpoint criteria in this well and PCE concentrations in upgradient well 55-145 exhibited a statistically significant decreasing trend.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 55, Public Works Transportation Department Waste Storage Area site. Well 55-145 is located near the inferred source area and well 55-146 is located approximately 300 feet downgradient.

Analytical Results. As discussed above, concentrations of chlorinated solvents were either not detected or detected at concentrations less than the OU A ROD cleanup levels at well 55-146 since compliance monitoring began at this site. TCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride concentrations were either not detected or detected at concentrations below

OU A ROD cleanup levels in all samples collected from well 55-145 during this 5-year review period. PCE was reported in groundwater samples collected at well 55-145 from 2006 to 2010 at concentrations ranging from 50 to 110 μg/L. The highest PCE concentration was measured in the 2006 sample from this well. The concentrations of PCE in all samples from well 55-145 were greater than the OU A ROD cleanup level of 5 μg/L. The PCE concentration exhibits a statistically significant decreasing trend in well 55-145.

Free-Product Monitoring. Although SWMU 55, Public Works Transportation Department Waste Storage Area is not a petroleum site, two monitoring wells within the vicinity of the site have been gauged for the presence of free product during the annual groundwater monitoring events. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C. During the September 2010 annual groundwater monitoring event, a trace of free product was detected in well 55-146. Free product had not been previously detected at this site.

Natural Attenuation Assessment

Compliance monitoring is the remedy for this site. However, a Mann-Kendall and Sen’s trend evaluation was conducted for PCE concentration in groundwater samples from well 55-145 over time. Results of the Mann-Kendall and Sen’s trend evaluation are summarized in Table 6-1. A decreasing trend was identified for PCE in groundwater samples from well 55-145 over time (U.S Navy 2011a). The Sen’s slope was calculated for PCE concentration in groundwater samples over time from well 55-145 in the 2010 annual monitoring report (U.S. Navy 2011a). Using the median and lower slope limits and the 2010 concentration in groundwater, PCE in groundwater could reach the endpoint criterion in 2013 or 2014, if the 2010 trend continues.

Future Monitoring Recommendations

PCE in groundwater remains above OU A ROD cleanup levels near the source area. However, PCE concentrations are decreasing. Chlorinated solvents have not migrated in groundwater to the downgradient monitoring point. Annual monitoring should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a).

6.4.22 SWMU 58/SA 73, Heating Plant 6

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the SWMU 58/SA 73, Heating Plant 6 site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected monitored natural attenuation with ICs as the final remedy for this site (U.S. Navy and ADEC 2005a). In addition, the decision document specified that one additional soil sample would be collected during the replacement of well 12-203 to evaluate natural attenuation processes within the vadose zone soil, two additional groundwater samples would be collected in wells 12-203 and 12-110 to provide updated petroleum concentrations in these two locations, and one surface water sample from the downstream end of the two on-site drainage ditches prior to the CDAA Creek to evaluate contaminant loading from groundwater into surface water. Results of this additional soil, groundwater, and surface water sampling are discussed in the Site Catalog attached as Appendix A. Groundwater samples were collected from SWMU 58/SA 73, Heating Plant 6 site during annual groundwater monitoring to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times Alaska groundwater cleanup levels [18 AAC 75.345]), to verify that natural attenuation is occurring, and to evaluate groundwater quality downgradient of the site to serve as a warning indicator for potential impacts to the downgradient surface water body (Clam Lagoon).

Groundwater samples were collected from wells 12-601, 12-604, and 12-611 for surface water protection monitoring. Samples from these wells were collected annually in wells 12-601 and 12-611, and every other year at well 12-604. Although petroleum hydrocarbons were either not detected or detected at concentrations below the endpoint criteria during all groundwater monitoring events at well 12-604, monitoring was continued at this well at the reduced frequency of every other year (even years) following the 2006 groundwater monitoring event because it is located downgradient of wells containing free product. Groundwater samples were collected for DRO, GRO, and BTEX analysis from 2006 through 2008. Following the 2008 groundwater monitoring event, sampling for GRO and BTEX was discontinued because these contaminants had not exceeded endpoint criteria in any well at the site since at least 2001.

Groundwater samples were collected from wells 12-101, 12-105, 12-114, 12-120, 12-121, and 12-203 for natural attenuation monitoring. Annual monitoring was planned for well 12-121 and 12-203. However, samples were not collected from well 12-203 in 2006, 2007, and 2008 and from well 12-121 in 2006 and 2008, because of the presence of free product. Furthermore, sampling of well 12-110 was planned for 2006 through 2008, but samples were not collected because of the presence of free product. Well 12-105 was sampled in 2008 and 2010. This well was sampled in 2008 as an alternate to well 12-110, because free product was detected in well

12-110. The 2008 groundwater monitoring report recommended that well 12-105 be sampled annually instead of well 12-110, because free product was consistently detected in well 12-110 and the construction of a 0.5-inch piezometer is not optimal for groundwater monitoring. Although annual monitoring of well 12-105 was planned beginning in 2009, this well was not sampled in 2009 because free product was present in the well. Groundwater samples were collected from wells 12-101 and 12-120 in 2006. Monitoring in these two wells was discontinued following the 2006 groundwater monitoring event, because endpoint criteria had been met. Groundwater samples were collected from well 12-114 every other year (even years). Although this location met endpoint criteria, this well is located at the plume edge downgradient of well 12-203, where concentrations have exceeded endpoint criteria. Therefore, the frequency of monitoring was reduced to every other year following the 2006 groundwater monitoring event. Groundwater samples were collected for DRO, GRO, and BTEX analysis from 2006 through 2008. As discussed above, following the 2008 groundwater monitoring event, sampling for GRO and BTEX was discontinued because these contaminants had not exceeded endpoint criteria in any well at the site since at least 2001. Groundwater samples were collected for NAPs analysis in 2009.

The 2008 groundwater monitoring report recommended that shoreline inspections of the small on-site stream be conducted adjacent to well 12-601 in 2009, because free product was observed in this well in 2007. Furthermore, if free product is detected in well 12-601 during the 2009 groundwater monitoring event or elevated petroleum concentrations are observed, surface water and sediment sampling were to be performed. Because free product was detected during the 2009 groundwater monitoring event, a surface water and a sediment sample were collected from location NL-07 and analyzed for DRO. A sample was not collected in 2010, because no evidence of contamination was observed during the shoreline inspection of the stream.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 58/SA 73, Heating Plant 6 site. Well 12-611 is within the dissolved plume immediately downgradient of the source area, while wells 12-601 and 12-604 are approximately 200 to 300 feet from the source area and 350 to 550 feet from the downgradient water body, Clam Lagoon. Wells 12-101, 12-105, 12-110, 12-114, 12-120, 12-121, and 12-203 are generally located within or near the former source area.

Analytical Results. GRO, benzene, toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from all wells at this site during this 5-year review period. DRO concentrations were below its endpoint criterion in all samples collected from wells 12-101, 12-105, 12-120, 12-162, 12-601, 12-604, and 12-611 during this 5-year review period.

DRO was reported in groundwater samples collected at well 12-121 from 2006 to 2010 at concentrations ranging from 1,300 to 28,000 μg/L. The highest DRO concentration was measured in the 2007 sample from this well. The concentration of DRO in the sample collected from well 12-121 was greater than the endpoint criterion in 2007. DRO was reported in the groundwater sample collected in 2010 at well 12-203 at a concentration of 17,000 µg/L, which is greater than the endpoint criterion.

DRO was reported in the surface water sample collected at NL-07 in 2010 at a concentration of 86 µg/L. No ADEC surface water quality criterion exists for DRO, but the concentration detected in the surface water is less than the endpoint criterion established for the South of Runway 18-36 Area (250 µg/L). DRO was reported in the sediment sample collected at NL-08 in 2010 at a concentration of 200 mg/kg. ADEC has not established cleanup levels for DRO in sediment. Therefore, sample results for DRO were compared to South of Runway 18-36 Area endpoint criterion. The DRO concentration was greater than the South of Runway 18-36 Area endpoint criterion of 90.6 mg/kg. Even though elevated concentrations of DRO (200 mg/kg) were observed in sediment NL-07, no evidence of petroleum contamination was observed when the sediment was disturbed. Additionally, biogenic sheen was observed at this marshy location and the laboratory indicated that the sediment DRO detection did not resemble a petroleum product. Therefore, this result is believed to be a false positive caused by naturally occurring organic material.

A visual inspection of the shoreline of the stream at the site was performed in 2009 and 2010. In 2009, sheen but no odor or seep was observed on the surface water of the creek downgradient of well 12-601. This area was very marshy, and the sheen appeared to be naturally occurring organic material. During the 2010 visual inspection, naturally occurring bio-sheen was observed on the surface water of the creek downgradient of well 12-601. No petroleum seep, sheen, odor, or discoloration was observed during the shoreline inspection.

Trend evaluations were not conducted for wells at this site, because analytes have not been detected above the endpoint criteria for the last two monitoring events or less than four data points were available for the wells at the site.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SWMU 58/SA 73, Heating Plant 6 site. Although only limited free-product recovery activities, conducted during the regularly scheduled annual groundwater monitoring activities, are part of the final remedy for this site (U.S. Navy and ADEC 2005a), monthly monitoring and free-product recovery were performed at three wells based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness Summary 2006 Through 2010.” The following summarizes the significant product thickness data for the SWMU 58/SA 73, Heating Plant 6 site.

Between October 1996 and September 2010, monitoring wells within the vicinity of SWMU 58/SA 73 Heating Plant 6 have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, three wells (12-110, 12-121, and 12-203) were gauged monthly from May 2007 through September 2010, concurrently with free product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak. Monthly free-product thickness measurements and free-product recovery activities were discontinued in well 12-110 after September 2007, because product recovery equipment could not fit inside the well casing of this 0.5-inch piezometer. Furthermore, following the 2008 annual groundwater monitoring event, monitoring of 12-110 was discontinued, and 12-105 was added as a replacement.

Between October 2005 and September 2010, free product has been detected in eight of the seventeen wells at the site: 12-105, 12-108, 12-110, 12-114, 12-121, 12-125, 12-203, and 12-601. The maximum measured thickness of free product reported at the site since October 2005 was 2.47 feet, in well 12-203 in September 2006. The maximum measured thickness of free product reported in wells 12-105, 12-108, 12-110, 12-114, 12-121, 12-125, and 12-601 was 0.09 foot in September 2009, 0.01 foot in September 2008, 1.11 foot in September 2007, a trace in September 2009, 0.15 foot in September 2006, 0.01 foot in September 2009, and 0.01 foot in September 2008 and 2009, respectively.

Free-Product Recovery. Interim free-product recovery at SWMU 58/SA 73, Heating Plant 6 was discontinued after July 2000, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the draft free-product recovery closure report (U.S. Navy 2000b). However, the final decision document for this site specified that annual free-product recovery be performed as part of the scheduled annual groundwater monitoring activities (U.S. Navy and ADEC 2005a). Furthermore, the decision document states that free product will be removed in wells with measured free-product thicknesses above 0.5 foot in a 2-inch well and 0.1 foot in a 4- or 6-inch well. In May of 2007, the ADEC requested that the Navy resume monthly free product recovery at selected wells, including wells 12-110, 12-121, and 12-203. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 Through 2010.”

Free product was recovered from well 12-203 during the 2006, 2007, 2008, and 2009 annual groundwater monitoring events, from well 12-110 during the 2006 annual groundwater monitoring event, and from wells 12-121 and 12-203 during monthly free-product recovery activities that occurred between May 2007 and September 2010. (It should be noted that in August 2007, free product was not recovered from the well 12-203, a 2-inch diameter well, though the thickness was 0.6 foot.) Approximately 3.85 gallons of free product was recovered from 12-203 during the annual groundwater monitoring events from October 2005 through September 2009, and approximately 0.50 gallon of free product were recovered from well 12-110 during the September 2006 annual groundwater monitoring event. Approximately 0.07 and 5.48 gallons were recovered during the monthly free-product recovery activities from May 2007 through September 2010 from wells 12-121 and 12-203, respectively. Therefore, the total volume of free product recovered from the SWMU 58/SA 73, Heating Plant 6 for the period October 2005 through September 2010 was 9.90 gallons. The maximum volume of free product was recovered from well 12-203 during this time period. It should also be noted that free product was recovered in September 2004 from well 12-110 during additional groundwater sampling required by the decision document. The report describing these activities was not available when the last 5-year review was prepared. Therefore, this information is provided here. Less than 0.01 gallon (0.003 gallon) of free product was recovered from well 12-110 during the September 2004 sampling event.

Natural Attenuation Assessment

Sulfate concentrations for the site are depleted in source plume well 12-121 (0.11 mg/L), compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (4.5 and 50 mg/L) are elevated, compared to background (0 mg/L), indicating the occurrence of iron reduction. Evidence of methanogenesis is observed at the SWMU 58 and SA 73, Heating Plant 6 site, as demonstrated by elevated methane concentrations in on-site wells (480 and 2,900 μg/L), compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

DRO was not measured at concentrations above the endpoint criterion in 2010 samples from wells 12-105, 12-114, and 12-121 (U.S. Navy 2011e). There have been only two samples collected from well 12-203. Because of these conditions, trend evaluations were not conducted for the 2010 annual report.

Future Monitoring Recommendations

DRO was detected at concentrations greater than the endpoint criterion, which is based on 10 times the ADEC cleanup level, in two wells at the site during this 5-year review period. Furthermore, DRO continues to exceed the endpoint criterion in source well 12-203, and free product continues to be observed at the site. Groundwater monitoring results indicate that the dissolved plume has not migrated to the downgradient monitoring points at concentrations greater than the endpoint criteria and that the downgradient surface water body is not currently at risk. Surface water and sediment sampling results confirm these groundwater monitoring results. However, free product was detected in surface water protection well 12-601 in 2008 and 2009 at a thickness of 0.01 foot. Based on these observations, it is recommended that DRO monitoring be discontinued in wells 12-601 and 12-604. Concentrations in these wells are below the endpoint criterion, and the wells are located downgradient of sentinel well 12-611. However, it is recommended that these wells continue to be gauged annually for the presence of free product. All other monitoring should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a).

In addition, product thickness measurements and free-product recovery, if required, should be reduced to six visits per year at wells where monthly measurements are currently being performed. The observance of low product thicknesses and recovered product volumes warrants a reduction in the monthly product recovery activity frequency. In addition, free product recovery often cannot be performed or is severely limited during winter months due to poor weather, snowy conditions, and icy roads.

6.4.23 SWMU 60, Tank Farm A

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the SWMU 60, Tank Farm A site from 2006 through 2010. Monitored natural attenuation and ICs is the remedy selected for this site (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples have been collected from this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]) and to verify that natural attenuation is occurring.

From 2006 through 2010, groundwater samples were collected annually from two wells at the site (LC5A and MW E006). Samples from well LC5A were analyzed for DRO. Beginning in 2008, samples collected from well LC5A were also analyzed for SVOCs and BTEX (to determine concentrations of TAH and TAqH) based on a recommendation made in the petroleum summary report (U.S. Navy 2008c). These analyses were added because of concerns that concentrations of petroleum hydrocarbons in soil and groundwater at the site may be impacting surface water and sediment in South Sweeper Creek. Samples from well MW E006 were analyzed for BTEX from 2006 through 2009 and for benzene only in 2010. Monitoring of toluene, ethylbenzene, and total xylenes was discontinued in well MW E006 after the 2009 groundwater monitoring event, because these chemicals had not been detected above endpoint criteria since 2003. NAPs monitoring is conducted every 5 years in these two wells, with the most recent sampling event occurring in 2009.

Visual inspection of the shoreline of South Sweeper Creek in the vicinity of LC5A for petroleum seeps or sheens was initiated in 2005, because concentrations of DRO consistently exceeded the endpoint criterion at well LC5A and a statistically significant increasing trend was identified at this location. Visual inspections continued through this 5-year reporting period. In addition, a surface water and sediment sample were collected from South Sweeper Creek in 2007 at location NL-03 based on a recommendation made in the 2006 groundwater monitoring report. Sampling was performed based on concerns that concentrations of petroleum hydrocarbons in soil and groundwater at the site may be impacting surface water and sediment in South Sweeper Creek. The surface water sample was analyzed for DRO, TAH, and TAqH, and the sediment sample was analyzed for DRO and BTEX. Because the Navy was already collecting surface water and sediment samples at location 852, which is located near NL-03, as part of the natural recovery remedy for South of Runway 18/36 Area, sampling of NL-03 was not performed in 2008, 2009, or 2010.

Because of the uncertainty regarding the potential impacts of the DRO plume on South Sweeper Creek, additional data was collected at SWMU 60, Tank Farm A. The objective of the additional characterization at SWMU 60, Tank Farm A was to determine if DRO is migrating to South Sweeper Creek at concentrations greater than ADEC surface water criteria. During this supplemental investigation, six soil borings were sampled. Soil boring results are discussed in the Site Catalog in Appendix A. Four soil borings were completed as wells, and groundwater samples were collected from three of the four new wells and one existing well (LC5A). One of the new wells was not sampled, because of the presence of free product in the well. The results of this groundwater sampling are discussed below.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 60, Tank Farm A site relative to existing structures and surface water bodies. Well MW E006 is installed adjacent to an unnamed creek that drains the central portion of Tank Farm A. Well LC5A is located downgradient from the Tank Farm, approximately 80 feet upgradient from South Sweeper Creek. New wells 650, 651, and 652 are located immediately adjacent to South Sweeper Creek, in a line from north to south. New well 653 is located approximately 70 feet southwest of well LC5A. NL-03 and 852 are located within South Sweeper Creek, near the western shoreline and downgradient of well LC5A.

Analytical Results. Toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from well MW E006 at this site during this 5-year review period. DRO was reported in groundwater samples collected at well LC5A from 2006 through 2010 at concentrations ranging from 860 to 3,000 µg/L. The highest DRO concentration was measured in the 2006 sample from this well. The concentrations of DRO in the samples from well LC5A were less than the endpoint criterion of 1,500 µg/L, except for in the sample collected in 2006. DRO was reported in groundwater samples collected from new wells 650, 651, and 652 in July 2010 at concentrations of 1,400, 1,100, and 3,700 µg/L, respectively. Only the concentration of DRO in the sample collected from well 652 exceeded the endpoint criterion.

TAH was reported in groundwater samples collected at well LC5A from 2008 through 2010 at concentrations ranging from 62 to 88 µg/L. The highest TAH concentration was measured in the 2009 sample from this well. The concentrations of TAH in all samples were greater than the ADEC surface water cleanup level of 10 µg/L. TAH was reported in groundwater samples collected from new wells 650, 651, and 652 in July 2010 at concentrations of 9.4, 96, and 170 µg/L, respectively. The concentrations of TAH in the samples from these three wells were greater than the ADEC surface water cleanup level, except for in the sample collected from well 650.

TAqH was reported in groundwater samples collected at well LC5A from 2008 through 2010 at concentrations ranging from 62 to 123 µg/L. The highest TAqH concentration was measured in the 2008 and 2009 samples from this well. The concentrations of TAqH in all samples were greater than the ADEC surface water cleanup level of 15 µg/L. TAqH was reported in groundwater samples collected from new wells 650, 651, and 652 in July 2010 at concentrations of 9.4, 96, and 170 µg/L, respectively. The concentrations of TAqH in the samples from these three wells were greater than the ADEC surface water cleanup level, except for in the sample collected from well 650.

Benzene was reported in groundwater samples collected at well MW E006 from 2006 through 2010 at concentrations ranging from 4.8 to 16 µg/L. The highest benzene concentration was measured in the 2008 sample from this well. The concentrations of benzene in the samples from well MW E006 were greater than the endpoint criterion of 5 µg/L, except for the sample collected in 2007. Benzene was reported in groundwater samples collected from new wells 650, 651, and 652 in July 2010 at concentrations of 7, 1.8, and 4 µg/L, respectively. The concentrations of benzene in the samples from these three wells were less than the endpoint criterion, except for in the sample collected from well 650.

DRO was not detected in the surface water sample collected at NL-03 in 2007. DRO was reported in surface water samples collected from 852 from 2006 through 2010 at concentrations ranging from 84 to 1,000 µg/L. The highest DRO concentration was measured in the 2009 sample from this location. No ADEC surface water quality criterion exists for DRO, but the concentrations detected in the surface water in 2006, 2009, and 2010 are greater than the endpoint criterion established for the South of Runway 18-36 Area (250 μg/L). TAH and TAqH concentrations in the surface water samples collected from NL-03 and 852 during this 5-year review period were less the ADEC surface water quality criteria.

DRO was reported in the sediment sample collected at NL-03 in 2007 at a concentration of 900 mg/kg. DRO was reported in sediment samples collected from 852 from 2006 through 2010 at concentrations ranging from 260 to 4,100 mg/kg. The highest DRO concentration was measured in the 2010 sample from this location. ADEC has not established cleanup levels for DRO in sediment. Therefore, sample results for DRO were compared to South of Runway 18-36 Area endpoint criterion. The DRO concentrations in all samples collected at locations NL-03 and 852 were greater than the South of Runway 18-36 endpoint criterion of 90.6 mg/kg.

Visual inspections of the east shoreline of South Sweeper Creek were performed annually from 2006 through 2010. The 2006 visual inspection did not identify any petroleum seeps or sheens along the shoreline of South Sweeper Creek in the area of LC5A. In 2007, one seep was identified near sampling location 852 indicating possible migration of petroleum contaminants from SWMU 60 to surface water near location 852. A petroleum sheen, but no seep, was also reported near location LC5A during the 2007 visual inspection. Because a seep was not observed at this location, it is possible that the sheen may be from an upgradient source rather than at SWMU 60. In 2008, a seep was observed during the inspection that had petroleum odor and sheen/discoloration. A seep was observed on the west side of Sweeper Creek lagoon adjacent to the west culvert and at the 852 sampling location during the 2009 inspection. This seep had a petroleum odor and sheen/discoloration. Additionally, petroleum sheen and odor were observed when sediments were disturbed during the sample collection at 852. During the 2010 visual inspection, a petroleum seep was observed on the west side of Sweeper Creek lagoon adjacent to the west culvert and at the 852 sampling location. Petroleum sheen and odor were observed when sediments were disturbed during the sample collection at 852.

Benzene concentrations have generally been stable at well MW E006 from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria in the last 2 years or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SWMU 60, Tank Farm A site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled "*Summary of Product Thickness Data 2005 Through 2010*" located in Appendix C. The following summarizes the significant product thickness data for the SWMU 60, Tank Farm A site.

Between September 1999 and September 2010, monitoring wells within the vicinity of SWMU 60, Tank Farm A have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. Between October 2005 and September 2010, three monitoring wells within the vicinity of the SWMU 60, Tank Farm A site have been gauged for the presence of free product. Free product was detected once in well LC5A in September 2007 at a thickness of 0.01 foot.

Natural Attenuation Assessment

Sulfate concentration is depleted in downgradient well LC5A (nondetected at 0.20 mg/L) compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations (10 and 17.5 mg/L) are moderately elevated, compared to background (0 mg/L), indicating the occurrence of some iron reduction. Strong evidence of methanogenesis is observed at the SWMU 60, Tank Farm A site as demonstrated by elevated methane concentrations in on-site wells (1,100 and 2,900 μg/L), compared to background (0.38 μg/L) (U.S. Navy 2010e).

The 2009 annual monitoring report concluded that these combined data strongly indicate that biodegradation of petroleum hydrocarbons is occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation are summarized in Table 6-1. DRO was not measured at a concentration above the endpoint criterion in groundwater samples from well LC5A. There was no trend identified for benzene concentrations in groundwater samples from well MW E006. Because of these conditions, a Sen's slope was not calculated for either of these analytes (U.S. Navy 2011a).

Applying the slopes of the regressed line to the 2010 benzene concentration provides a very rough estimate for time to achieve the endpoint criterion if the observed trend continues. No level of confidence is applied to the regression. If the current trend continues, benzene in groundwater from MWE006 could reach the endpoint criterion in 2014.

Future Monitoring Recommendations

Monitoring of toluene, ethylbenzene, and total xylenes was discontinued in well MW E006 after the 2009 groundwater monitoring event, because these chemicals had not been detected above endpoint criteria since 2003. DRO concentrations in samples collected from LC5A have decreased to levels less than the endpoint criterion, which is based on the ADEC cleanup level. Therefore, monitoring for DRO at this location should be discontinued. However, TAH and TAqH concentrations exceeded ADEC surface water cleanup levels in well LC5A. Therefore, annual monitoring for TAH and TAqH should be continued in this well. The four newly installed wells, 650, 651, 652, and 653, will be sampled annually for DRO, BTEX, and PAHs. BTEX and PAH concentrations will be used to calculate TAH and TaqH for comparison to ADEC surface water criteria. These wells are being added to the monitoring program because the DRO concentration in well 652, TAH and TAqH concentrations in wells 651 and 652, and benzene concentration in well 650 exceeded endpoint criteria, and free product was detected in well 653. Benzene concentrations remain above the endpoint criterion at MW E006. DRO concentrations in surface water samples and sediment samples from location 852 exceeded the endpoint criterion for South of Runway 18-36 Area. Although TAH and TAqH concentrations in surface water samples did not exceed ADEC surface water criterion, continued monitoring is recommended because samples from wells adjacent to South Sweeper Creek exceeded the endpoint criteria. Therefore, monitoring at MW E006 and 852 should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a).

6.4.24 SWMU 61, Tank Farm B

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at three locations (14-113, 14-210, and TFB-MW-4B) at the SWMU 61, Tank Farm B site from 2006 through 2010. The remedy specified for this site in the OU A ROD is monitored natural attenuation and ICs (U.S. Navy, USEPA, and ADEC 2000). Groundwater samples were collected from SWMU 61, Tank Farm B to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]), to verify that natural attenuation is occurring, and to evaluate groundwater quality downgradient of the site, to serve as a warning indicator for potential impacts to the downgradient surface water body (North Sweeper Creek). Groundwater samples were collected from all three wells for GRO, BTEX, and NAPs analyses. GRO and BTEX analyses were conducted annually, and NAPs analyses were conducted every 5 years, with the most recent sampling event occurring in 2009. Samples collected from well 14-113 were also analyzed for SVOCs and BTEX (to determine concentrations of TAH and TAqH) beginning in 2007. These analyses were added because of concerns that concentrations of petroleum hydrocarbons in soil and groundwater at the site may be impacting surface water and sediment in North Sweeper Creek. In addition, samples collected from wells 14-113 and TFB-MW-4B in 2009 were analyzed for DRO. The reason for analyzing the samples for DRO in 2009 was not provided in the groundwater monitoring report.

Visual inspection of the shoreline of North Sweeper Creek in the vicinity of well 14-113 for petroleum seeps or sheens was initiated in 2004, because groundwater containing petroleum hydrocarbons appeared to be migrating into North Sweeper Creek. Visual inspections continued through this 5-year reporting period. In addition, surface water and sediment samples were collected from North Sweeper Creek at three locations, NL-04, NL-D-04, and NL-U-04 during this 5-year review period. Sampling of NL-04 was initiated in 2007, based on a recommendation made in the 2006 groundwater monitoring report. Surface water and sediment sampling of NL-D-04 and NL-U-04 was initiated in 2009. Sampling at NL-D-04 was performed to determine whether petroleum contamination from groundwater is impacting surface water. Sample NL-D-04 was collected approximately 70 feet downstream of NL-04. NL-U-04 was collected approximately 85 feet upgradient of location NL-04 to determine if contamination from potential upgradient sources is impacting the creek. Because petroleum hydrocarbons were not detected at concentrations greater than endpoint criteria in the surface water and sediment sample collected at NL-U-04 in 2009, monitoring at this location was discontinued. Surface water samples were analyzed for GRO, TAH, and TAqH. Sediment samples were analyzed for GRO and BTEX. Beginning in 2009 surface water and sediment samples were also analyzed for DRO. Again, the reason for analyzing the samples for DRO was not provided.

Because groundwater data reported for samples collected from wells 14-210 and 14-113 suggest that petroleum-related chemicals are being transported towards North Sweeper Creek at concentrations above endpoint criteria, the Navy recommended that options to augment the existing remedy at this site be evaluated through an EE/CA. Additional data were collected in 2010 during a supplemental investigation to improve delineation of the extent of petroleum-impacted soils in support of the EE/CA and potential soil excavation in the vicinity of North Sweeper Creek. During this supplemental investigation, seven soil borings were sampled. Soil boring results are discussed in the Site Catalog in Appendix A. No groundwater sampling was performed as part of this supplemental investigation.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 61, Tank Farm B site relative to potential source areas at the site and the downgradient surface water body, North Sweeper Creek. Well TFB-MW-4B is located within the source area. Monitoring wells 14-113 and 14-210 are located within the dissolved petroleum plume, approximately 150 and 250 feet, respectively, downgradient from the former petroleum-release area at this site and approximately 50 and 175 feet, respectively, from North Sweeper Creek.

Analytical Results. Benzene, toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from well 14-210 at this site during this 5-year review period. Toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from well 14-113 at this site during this 5-year review period. DRO concentrations at wells 14-113 and TFB-MW-4B in 2009 were below the endpoint criterion of 1,500 μg/L.

GRO was reported in groundwater samples collected at well 14-113 from 2006 through 2010 at concentrations ranging from 2,700 to 6,300 μg/L. The highest GRO concentration was measured in the 2006 sample from this well. GRO was reported in groundwater samples collected at well 14-210 from 2006 through 2010 at concentrations ranging from 3,400 to 4,500 μg/L. The highest GRO concentration was measured in the 2009 sample from this well. GRO was reported in groundwater samples collected at well TFB-MW-4B from 2006 through 2010 at concentrations ranging from 40,000 to 53,000 μg/L. The highest GRO concentration was measured in the 2009 sample from this well. The concentrations of GRO in the samples from wells 14-113, 14-210, and TFB-MW-4B were all greater than the endpoint criterion of 1,500 μg/L.

Benzene was reported in groundwater samples collected at well 14-113 from 2006 through 2010 at concentrations ranging from 9.6 to 16 μg/L. The highest benzene concentration was measured in the 2006 sample from this well. Benzene was reported in groundwater samples collected at well 14-210 from 2006 through 2010 at concentrations ranging from 29 to 39 μg/L. The highest benzene concentration was measured in the 2007 sample from this well. The concentrations of benzene in the samples from wells 14-113 and TFB-MW-4B were all greater than the endpoint criterion of 5 μg/L. Toluene was reported in groundwater samples collected at well TFB-MW-4B from 2006 through 2010 at concentrations ranging from 3,500 to 4,800 μg/L. The highest toluene concentration was measured in the 2009 sample from this well. Ethylbenzene was reported in groundwater samples collected at well TFB-MW-4B from 2006 through 2010 at concentrations ranging from 1,400 to 2,100 μg/L. The highest ethylbenzene concentration was measured in the 2010 sample from this well. Total xylenes were reported in groundwater samples collected at well TFB-MW-4B from 2006 through 2010 at concentrations ranging from 10,800 to 15,700 μg/L. The highest total xylenes concentration was measured in the 2010 sample from this well. The concentrations of toluene, ethylbenzene, and total xylenes in the samples collected from well TFB-MW-4B were all greater than their respective endpoint criteria of 1,000, 700, and 10,000 μg/L.

TAH was reported in groundwater samples collected at well 14-113 from 2007 through 2010 at concentrations ranging from 748 to 1,453 μg/L. The highest TAH concentration was measured in the 2009 sample from this well. The concentrations of TAH in all samples were greater than the ADEC surface water cleanup level of 10 μg/L. TAqH was reported in groundwater samples collected at well 14-113 from 2007 through 2010 at concentrations ranging from 748 to

1,453 μg/L. The highest TAqH concentration was measured in the 2009 sample from this well. The concentrations of TAqH in all samples were greater than the ADEC surface water cleanup level of 15 μg/L.

DRO was not detected or was detected at concentrations less than the endpoint criterion established for the South of Runway 18-36 Area (250 μg/L) in surface water samples collected from all locations at the site during this 5-year review period. GRO was not detected or was detected at concentrations less than the endpoint criterion established for the South of Runway 18-36 Area (114 μg/L) in surface water samples collected from all locations at the site during this 5-year review period. TAH and TAqH were not detected or were detected at concentrations less than the ADEC surface water quality criteria (10 and 15 μg/L, respectively) in surface water samples collected from all locations at the site during this 5-year review period.

DRO was detected at a concentration less than the endpoint criterion established for the South of Runway 18-36 Area (90.6 mg/kg) in the sediment sample collected from NL-U-04. DRO was reported in the sediment samples collected at NL-04 from 2009 and 2010 at concentrations of 89 and 160 mg/kg, respectively. The highest DRO concentration was measured in the 2010 sample from this location. This sample exceeded the South of Runway 18-36 endpoint criterion of 90.6 mg/kg. DRO was reported in the sediment samples collected at NL-D-04 from 2009 and 2010 at concentrations of 370 and 1,200 mg/kg, respectively. The highest DRO concentration was measured in the 2010 sample from this location. Both samples exceeded the South of Runway 18-36 endpoint criterion of 90.6 mg/kg. GRO was not detected in samples collected from NL-U-04 or NL-D-04. However, reporting limits were generally higher than the endpoint criterion established for the South of Runway 18-36 Area (12.2 mg/kg). GRO was reported in the sediment samples collected at NL-04 from 2007 through 2010 at concentrations ranging from 2.8 to 300 mg/kg. The highest GRO concentration was measured in the 2008 sample from this location. Concentrations in all samples exceeded the South of Runway 18-36 endpoint criterion of 12.2 mg/kg, except the sample collected in 2007.

Visual inspections of the shoreline of North Sweeper Creek were performed annually from 2006 through 2010. The 2006 and 2007 visual inspections did not identify any seep or sheen on the shoreline, and sheen was not observed on the surface water. In 2008, no seep was observed along the shoreline, but odor and sheen were observed when sediment was disturbed during sampling. In 2009, sheen and petroleum odor were identified when sediment was disturbed during sampling activities at downgradient locations NL-04 and NL-D-04. Additionally, petroleum odor was observed near well 14-113 and along the shoreline of North Sweeper Creek approximately 80 feet both up and downstream of the well. In 2010, petroleum odor but no sheen was observed when sediment was disturbed during the collection of sediment sample NL-04. No petroleum contamination was observed during the collection of a sample from location NL-D-04.

GRO exhibited an increasing trend at well TFB-MW-4B. GRO concentrations at wells 14-113 and 14-210 were generally stable from 2006 through 2010, and benzene concentrations at wells 14-113 and TFB-MW-4B exhibited a decreasing trend from 2006 through 2010. Toluene, ethylbenzene, and total xylenes concentrations at well TFB-MW-4B exhibited increasing trends from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria, or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SWMU 61, Tank Farm B site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy, USEPA, and ADEC 2000). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. Free product was not detected at this site during this 5-year review period.

Natural Attenuation Assessment

Sulfate concentrations for the site are depleted in site wells (0.07 and 0.25 mg/L) compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. Onsite ferrous iron concentrations (10 to 50 mg/L) are elevated, compared to background (0 mg/L), indicating the occurrence of iron reduction. Finally, evidence of methanogenesis is observed at the SWMU 61, Tank Farm B site, as demonstrated by elevated methane concentrations in on-site wells (620 and 1,500 μg/L), compared to background (0.38 μg/L).

Well 14-113 is located in the wetland associated with North Sweeper Creek and depleted oxygen and elevated methane and carbon dioxide concentrations observed in this well are suspected to be due at least in part to the microbial degradation of naturally occurring organic matter associated with wetland saturated soils.

The annual report concluded these combined data indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates that natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen’s trend evaluation are summarized in Table 6-1. Decreasing trends were identified for benzene concentrations in groundwater samples from wells 14-113 and TFB-MW4B. The remaining concentration data sets were identified as having no trend or an increasing trend (U.S. Navy 2011a).

The Sen’s slope was calculated for benzene concentrations in groundwater samples over time from wells 14-113 and TFB-MW4B in the 2010 annual monitoring report (U.S. Navy 2011a). Using the median and lower slope limits and the 2010 concentration in groundwater, benzene in groundwater from 14-113 could reach the endpoint criterion in 2012 or 2013, and 2016 to 2020 in groundwater from TFB-MW4B. These endpoint dates assume that the 2010 trend continues.

Future Monitoring Recommendations

Dissolved petroleum hydrocarbons remain at concentrations above endpoint criteria, which are based on the ADEC cleanup levels, in groundwater samples from all wells at the site. In addition, TAH and TAqH concentrations in the well closest to North Sweeper Creek are above ADEC surface water criteria. However, concentrations of petroleum hydrocarbons in surface water samples collected from North Sweeper Creek are below endpoint criteria. DRO and GRO concentrations are generally above endpoint criteria in sediment samples collected from NL-04, and DRO concentrations are above the endpoint criterion in sediment samples collected from NL-D-04. Sheens and odors have been observed in the surface water adjacent to the site during this 5-year review period. Annual monitoring should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a). Note that despite the increasing concentrations at certain locations on site, the recommendation to continue monitoring as prescribed, rather than implement additional remedial actions at the site, is because of the sensitive nature of the wetland environment. An EE/CA (U.S. Navy 2010j) was completed, and it was determined by the Navy and ADEC that further action at the site would result in more harm than benefit to the wetland environment.

6.4.25 SWMU 62, New Housing Fuel Leak

Two areas of SWMU 62, New Housing Fuel Leak are currently being monitored: Eagle Bay Housing Area and Sandy Cove Housing 102, 107, and 146 Area. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected passive free-product recovery and containment, monitored natural attenuation for groundwater, surface soil excavation in Sandy Cove Housing 102, 107, and 146 Area, and ICs as the final remedy for this site (U.S. Navy and ADEC 2006b). In addition, the decision document specified that a free-product recovery trench would be installed at the site adjacent to East Canal for product recovery, four new wells would be installed at the site for surface water protection monitoring, natural attenuation monitoring, and free-product recovery, and visual inspections of East Canal would be performed. Groundwater samples were collected during the annual groundwater monitoring activities at this site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]), to evaluate natural attenuation parameters, and to evaluate groundwater quality downgradient of the site to serve as a warning for potential impacts to the downgradient surface water body (East Canal).

Eagle Bay Housing Area Data Review

Data Collection During This 5-Year Review Period. Groundwater samples were collected from wells 03-109, 03-898, AMW-704, RW-303-13, RW-303-14, and RW-303-16 for surface water protection and natural attenuation monitoring. Monitoring was conducted annually in these wells, except for in well RW-303-13. A sample was not collected from this well in 2007, because of a field error. Well RW-303-15 was sampled instead of RW-303-13 (see next paragraph.) DRO, GRO, and BTEX analyses were conducted at all surface water protection monitoring wells from 2006 through 2010. NAPs analyses were conducted in 2006 and 2009.

Groundwater samples were collected annually during this 5-year review period from wells 03-103, 03-502, HMW-303-12, and MW-303-14 for natural attenuation monitoring. DRO, GRO, and BTEX analyses were conducted annually at all monitored natural attenuation wells from 2006 through 2010. NAPs analyses were conducted in 2006 and 2009. In addition, one sample was inadvertently collected from RW-303-15 in 2007 and analyzed for DRO, GRO, and BTEX.

Visual inspections of East Canal were performed annually from 2007 through 2010. It is unclear why a visual inspection was not performed in 2006, because visual inspection was a requirement of the decision document for this site. The 2009 annual groundwater monitoring report recommended that one surface water sample and one sediment sample be collected in East Canal downstream of boom 8 (location NL-09). The surface water was to be analyzed for DRO, GRO, BTEX, TAH and TAqH; and sediment was to be analyzed for DRO, GRO, BTEX, and PAHs. This sampling was implemented in 2010. In addition, one surface water sample and one sediment sample were collected from a seep at boom 8 in 2009 to characterize seep contaminants (EC-01). The surface water sample was analyzed for DRO, GRO, BTEX, and PAHs, and the sediment sample was analyzed for RRO, DRO, GRO, and BTEX.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing Area relative to existing structures at the site. Apparent groundwater flow is to the west towards East Canal. Wells 03-898, AMW-704, RW-303-13, and RW-303-14 are located at the downgradient edge of the site near East Canal. The remainder of the sampled wells are located within the site, with the data used to monitor the extent of groundwater impacts. The 2009 surface water and sediment sampling location is included in the technical memorandum for this additional sampling activity (U.S. Navy 2010b).

Analytical Results. During this 5-year review period, DRO, GRO, and BTEX concentrations were below their respective endpoint criteria in all samples collected from wells 03-109, 03-898, HMW-303-12, and RW-303-14. GRO and BTEX concentrations were below their respective endpoint criteria in all samples collected from wells 03-103, AMW-704, RW-303-13, and RW-

303-16. Toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from well 03-502 during this 5-year review period.

DRO was reported in groundwater samples collected at well 03-103 from 2006 to 2010 at concentrations ranging from 190 to 1,900 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well were less than the endpoint criterion of 1,500 μg/L during this 5-year review period, except in the sample collected in 2006. DRO was reported in groundwater samples collected at well AMW-704 from 2006 to 2010 at concentrations ranging from 1,200 to 3,800 μg/L. The highest DRO concentration in this well was measured in the 2010 sample. The DRO concentrations in this well have been greater than the endpoint criterion of 1,500 μg/L during this 5-year review period, except in the sample collected in 2009. DRO was reported in groundwater samples collected at well MW-303-14 from 2006 to 2010 at concentrations ranging from 310 to 1,800 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well were less than the endpoint criterion of 1,500 μg/L during this 5-year review period, except in the sample collected in 2006. DRO was reported in groundwater samples collected at well RW-303-13 from 2006 to 2010 at concentrations ranging from 200 to 3,400 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well were greater than the endpoint criterion of 1,500 μg/L in 2006, 2008, and 2010. DRO was reported in groundwater sample collected at well RW-303-15 in 2007 at a concentration of 5,500 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well have consistently been greater than the endpoint criterion during this 5-year review period. DRO was reported in groundwater samples collected at well RW-303-16 from 2006 to 2010 at concentrations ranging from 2,500 to 10,000 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well have consistently been greater than the endpoint criterion during this 5-year review period.

DRO was reported in groundwater samples collected at well 03-502 from 2006 to 2010 at concentrations ranging from 1,200 to 8,200 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well were greater than the endpoint criterion of 1,500 μg/L in 2006, 2007, and 2008. GRO was reported in groundwater samples collected at well 03-502 from 2006 to 2010 at concentrations ranging from 1,500 to 8,200 μg/L. The highest GRO concentration in this well was measured in the 2006 sample. The GRO concentrations in this well have consistently been greater than the endpoint criterion during this 5-year review period. Benzene was reported in groundwater samples collected at well 03-502 from 2006 to 2010 at concentrations ranging from 0.15 to 5.4 μg/L. The highest DRO concentration in this well was measured in the 2006 sample. The benzene concentrations in this well were less than the endpoint criterion of 5 μg/L during this 5-year review period, except in the sample collected in 2006.

DRO and GRO were reported in the surface water sample collected at EC-01 in 2009 at concentrations of 120 and 61µg/L, respectively. No ADEC surface water quality criterion exists for DRO, but the concentration detected in the surface water is less than the endpoint criterion established for the South of Runway 18-36 Area (250 µg/L). No ADEC surface water criterion exists for GRO either, but the concentration detected in the surface water is less than the endpoint criterion established for the South of Runway 18-36 Area (114 µg/L). Indeno(1,2,3-cd)pyrene was not detected in the surface water sample collected in 2009. TAH and TAqH were reported in the 2009 surface water sample at concentrations of 3.69 and 3.75 µg/L, respectively. Both the TAH and TAqH concentrations were below the ADEC surface water quality standards of 10 and 15 µg/L, respectively.

DRO and GRO were reported in the surface water sample collected at NL-09 in 2010 at concentrations of 280 and 230 µg/L, respectively. TAH and TAqH were reported in the 2010 surface water sample at concentrations of 29 and 29.2 µg/L, respectively. No ADEC surface water quality criterion exists for DRO, but the concentration detected in the surface water is greater than the endpoint criterion established for the South of Runway 18-36 Area (250 µg/L). No ADEC surface water criterion exists for GRO either, but the concentration detected in the surface water is greater than the endpoint criterion established for the South of Runway 18-36 Area (114 µg/L). TAH and TAqH were reported in the surface water sample collected at NL-09 in 2010 at concentrations of 29 and 29.25 µg/L, respectively. Both the TAH and TAqH concentrations were above the ADEC surface water quality standards of 10 and 15 µg/L, respectively.

RRO and DRO were reported in the sediment sample collected at EC-01 in 2009 at concentrations of 290 and 460 mg/kg, respectively. GRO and BTEX were not detected in the sediment sample. ADEC has not established cleanup levels for specific compounds in sediment. Therefore, sample results for DRO were compared to the South of Runway 18-36 Area endpoint criterion. The DRO concentration was above the South of Runway 18-36 endpoint criterion of 90.6 mg/kg. An endpoint criterion was not established for RRO at the South of Runway 18-36 Area.

DRO was reported in the sediment sample collected at NL-09 in 2010 at a concentration of 39 mg/kg. GRO was not detected in the sediment sample. Three PAHs were reported in the 2010 sediment sample at concentrations ranging from 0.9 to 3.5 µg/kg. ADEC has not established cleanup levels for specific compounds in sediment. Therefore, sample results for DRO were compared to the South of Runway 18-36 Area endpoint criterion, and detected PAH compounds were compared to the most stringent ADEC soil cleanup levels. The DRO concentration was below the South of Runway 18-36 endpoint criterion of 90.6 mg/kg, and the detected PAH concentrations were all well below the most stringent ADEC soil cleanup levels.

Visual inspections were performed in 2007, 2008, 2009, and 2010. No visual inspection was performed at SWMU 62, New Housing Fuel Leak site in 2006. During the 2007 visual inspection, no seep, sheen, or odor was identified in East Canal downgradient of the SWMU 62, New Housing Fuel Leak site. During the 2008 visual inspection, several areas of black, oily petroleum contamination were observed along the shoreline in East Canal downgradient of SWMU 62, New Housing Fuel Leak that were causing sheen on East Canal waters. An increase in the amount of oil seeping into East Canal has been observed since March 2008 after Adak experienced a 6.7 magnitude earthquake. Several areas of black, oily petroleum contamination were observed during the 2009 visual inspection along the shoreline of East Canal downgradient of SWMU 62, New Housing Fuel Leak and Former Power Plant Building T-1451. These were causing a sheen on East Canal waters. In addition, petroleum sheen was observed to ooze from shoreline sediments when pressure was applied at locations along the entire length of East Canal between SWMU 62 and the southern canal outlet. In 2010, a large petroleum seep, approximately 150 feet in length and up to 10 feet in width was observed downgradient of the free product recovery trench. Oily sediments, pooled free product, surface water sheen, petroleum odor, and iron staining were observed at this location.

GRO concentrations at well 03-502 exhibited a statistically significant decreasing trend. DRO concentrations at wells AMW-704, RW-303-13, and RW-303-16 have generally been stable from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria, or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing Area. Free-product recovery is a component of the final remedy for this site (U.S. Navy and ADEC 2006b). Therefore, monthly monitoring and free-product recovery were performed at this site during this 5-year review period. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness Summary 2006 Through 2010.” The following summarizes the significant product thickness data for the SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing.

Between November 1992 and September 2010, monitoring wells within the vicinity of the SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, 34 wells were gauged weekly in September 2006 as part of free-product recovery system startup and 38 wells were gauged monthly from October 2006 through September 2008, 24 wells were gauged monthly from October 2008 through September 2009, and 17 wells were gauged monthly from October 2009 through September 2010 as part of final remedy implementation.

The frequency of product thickness measurements at 15 wells was decreased from monthly to annually after September 2008. In addition, the frequency of product thickness measurements at one well was increased from annually to monthly after September 2008. Therefore, the total number of wells monitored monthly for free product for October 2008 through September 2009 was 24. However, the remedial action summary report for the period October 2007 to September 2008 recommended that monthly monitoring be continued at 11 monitoring wells and the 6 recovery sumps, for a total of 17 wells. Three wells recommended for monthly monitoring were not monitored from October 2008 through September 2009, and 10 wells that were not recommended for continued monthly monitoring were monitored. It appears that the three wells that were recommended for continued monthly monitoring were accidentally dropped from the program, and monthly monitoring was resumed in October 2009. No rationale was provided for monitoring the 10 wells that were not recommended for continued monthly monitoring. Free product was not detected in any of these wells from October 2007 through September 2008 and free product was detected during the 2007 and 2008 annual groundwater monitoring events in only some of the ten wells. Furthermore, free product was detected during the 2007 and 2008 annual groundwater monitoring events in wells that were not added to the monthly monitoring program.

The frequency of product thickness measurements at 10 wells was decreased from monthly to annually after September 2009. In addition, the frequency of product thickness measurements at three wells was increased from annually to monthly after September 2009. Therefore, the total number of wells monitored monthly for free product from October 2009 through September 2010 was 17. The recommendations made in the remedial action summary report for the period October 2007 to September 2008 were implemented in September 2009. However, the remedial action summary report for the period October 2008 to September 2009 recommended continued monitoring at five wells where monitoring was discontinued in October 2009. These five wells are CTO-MW15, MW-303-5, MW-303-8, RW-303-12, and RW-303-7. This report also recommended discontinuing monitoring at one well (RW-303-4) where monitoring was continued in October 2009, because free product had not been observed at this location for 12 months.

Between October 2005 and September 2010, free product has been detected in 36 wells at the site. The maximum measured thickness of free product reported at the site since October 2005 was 2.03 feet in well HMW-303-11 in September 2006. The maximum measured thickness of free product reported in other site wells where free product was measured at thicknesses greater than 0.1 foot was as follows:

- 0.77 foot in September 2006 at 03-107
- 1.89 feet in September 2006 at 03-518
- 0.31 foot in September 2006 at HMW-303-10
- 0.32 foot in September 2006 at HMW-303-2
- 1.96 feet in September 2006 at HMW-303-3
- 0.3 foot in September 2006 at MW-303-10
- 0.59 foot in September 2006 at MW-303-12
- 1.02 feet in September 2006 at MW-303-7
- 1.63 feet in September 2006 at MW-303-8
- 0.6 foot in September 2006 at RW-303-12
- 0.8 foot in September 2006 at RW-303-4
- 0.82 foot in October 2006 at HMW-303-5
- 0.35 foot in October 2006 at HMW-303-9
- 0.44 foot in February 2007 at RW-303-15
- 0.46 foot in August 2007 at SWMU62-R3
- 0.18 foot in September 2007 at SWMU62-R4
- 1.18 feet in March 2009 at CTO124-MW15
- 1.26 feet in March 2009 at 03-101
- 1.78 feet in March 2009 at 03-102

Free-Product Recovery. Interim free-product recovery at this site was conducted between 1989 and 2000, using active recovery systems (a dual-pump system from 1989 until October 1996 and a total-fluids product-recovery system from November 1996 until May 2000). The Navy prepared the *Draft Free-Product Recovery Closure Report for SWMU 62, New Housing Fuel Leak* that presented a comparison of the system recovery to endpoint criteria (U.S. Navy 1999). Based on the comparison of the volume of recovered product with the volume of total fluids pumped during 1999, the product-recovery system at the SWMU 62, New Housing Fuel Leak site was shown to have met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD. Subsequently, the product-recovery system was shut down on May 1, 2000. Free-product recovery was selected as part of the final remedy for the site in the decision document (U.S. Navy and ADEC 2006b). These additional free-product recovery activities were implemented at the site in September 2006. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 Through 2010.”

Free-product recovery was conducted, if required, at 34 wells in the vicinity of the SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing during September 2006. Free-product recovery was conducted, if required, at 38 wells from October 2006 through September 2008, at 24 wells from October 2008 through September 2009, and at 17 wells from October 2009 through September 2010. Monthly product recovery activities were discontinued at 15 wells after September 2008, because free product had not been observed for 6 months in these wells. Monthly product recovery activities were initiated at one well after September 2008. Therefore, the total number of wells where monthly free-product activities was performed for the period from October 2008 through September 2009 was 24. However, the remedial action summary report for the period October 2007 to September 2008 recommended that monthly product recovery activities be continued at 11 monitoring wells and the 6 recovery sumps, for a total of 17 wells. Three wells recommended for monthly product recovery were not monitored from October 2008 through September 2009, and 10 wells that were not recommended for continued monthly product recovery were included in the monthly product recovery program. It appears that the three wells that were recommended for continued monthly product recovery activities were accidentally dropped from the program, and monthly product recovery was resumed in October 2009. No rationale was provided for continuing monthly product recovery at the 10 wells that were recommended for discontinuation of the monthly product recovery.

Free-product recovery at 10 wells was decreased from monthly to annually after September 2009. In addition, free-product recovery at three wells was increased from annually to monthly after September 2009. Therefore, the total number of wells monitored monthly for free product from October 2009 through September 2009 was 17. Therefore, the recommendations made in the remedial action summary report for the period October 2007 to September 2008 were implemented in September 2009. However, the remedial action summary report for the period October 2008 to September 2009 recommended continued monthly free-product recovery at five wells where monitoring was discontinued in October 2009. These five wells are CTO-MW15, MW-303-5, MW-303-8, RW-303-12, and RW-303-7. This report also recommended discontinuing monthly free-product recovery at one well (RW-303-4) where monthly monitoring was continued in October 2009, because free product had not been observed at this location for 12 months.

Approximately 1.52 gallons of free product were recovered from the SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing during the annual groundwater monitoring events from 2006 through 2010. Of this, 1.5 gallons were recovered from RW-303-4 during the September 2006 annual groundwater monitoring event, and 0.02 gallon was recovered from HMW-303-3 during the 2007 annual groundwater monitoring event. No free product was recovered during the 2008, 2009, and 2010 annual groundwater monitoring events.

In September 2006, approximately 58.12 gallons of free product were recovered from SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing during monthly free-product recovery activities. Approximately 25.73, 9.13, 8.3, and 11.43 gallons were recovered during monthly free-product recovery activities at SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing from October 2006 to September 2007, from October 2007 to September 2008, from October 2008 through September 2009, and from October 2009 through September 2010, respectively. The total volume of free product recovered from SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing for the period October 2005 through September 2010 was 114.23 gallons. The maximum volume of free product (22.80 gallons) was recovered from well HMW-303-3 for the time period October 2005 through September 2010. In addition, 18.86 gallons from 03-518, 14.76 gallons from HMW-303-11, and 13.85 gallons from 03-102 during this same time period.

The technically practicable endpoint for passive recovery in site wells has been met at the SWMU 62, New Housing Fuel Leak site. The requirement states that “the practicable endpoint for recovery will be reached when the monthly volume of recovered product, averaged over the most recent 6 months (6-month moving average), is less than 5 gallons per month for a period of 12 months of product recovery.” The 6-month moving average of product recovered was less than 5 gallons per month from October 2009 through September 2010. However, the practicable endpoint for the recovery trenches had not met the endpoint criterion. Product was observed at least once in five of the six recovery sumps between October 2009 and September 2010. The endpoint criterion for the recovery sumps is that product has been reduced to less than 0.01 inches, or no sounding of the oil/water probe has been experienced for 1 year.

Future Monitoring Recommendations

GRO and BTEX concentrations were below endpoint criteria in all site wells except 03-502. Therefore, monitoring for GRO and BTEX should be discontinued at all site wells, except 03-502 and downgradient well RW-303-14. Monitoring at wells HMW-303-12 and MW-303-14 should be discontinued, because concentrations of petroleum hydrocarbons in these upgradient wells have been below the endpoint criteria for at least the last four consecutive groundwater monitoring events. Selected wells within the area where free product has been detected in the past should be added to the monitoring program, as free product levels decline at the site. No well within the source area is currently being monitored, and monitoring of these wells should be performed to demonstrate that natural attenuation is occurring within the source area. Annual monitoring should continue at all other site wells as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), with the modifications noted above.

DRO, GRO, TAH, and TAqH concentrations in the surface water sample collected at NL-09 exceeded the endpoint criteria established for the South of Runway 18-36 Area, and the DRO concentration in the sediment sample collected at EC-01 exceeded the endpoint criterion established for the South of Runway 18-36 Area. Therefore, continued monitoring of surface water and sediment, as prescribed in the CMP, Revision 4, is recommended.

Although free-product recovery activities in site wells have met the endpoint criterion, free-product recovery activities in site wells will be continued because free product continues to be detected in site wells at thicknesses greater than 0.02 foot. Free-product monitoring and recovery will be continued at the following eight wells: 03-101, 03-102, 03-518, HMW-303-9, HMW-303-11, RW-303-4, RW-303-13, and RW-303-15. Free-product monitoring and recovery activities will be initiated at wells MW-15, MW-303-8, and MW-303-10 and will be continued at MW-303-12 since greater than 0.02 foot of product was observed in these wells during the September 2010 annual groundwater monitoring activities. Finally, free-product monitoring and recovery activities at wells HMW-303-3 and RW-303-11 should be discontinued since product has not been observed at these locations during the past 12 months. Free-product recovery in the recovery trenches has not met the endpoint criterion. Therefore, free-product monitoring and recovery should be continued in the recovery trenches. The frequency of product thickness measurements and free-product recovery, if required, should be decreased from monthly to six times per year, because of low product thicknesses and recovered product volumes. Additionally, many sites are typically inaccessible during the winter months of January through March because of poor weather, snowy conditions, and icy roads. The type of free-product recovery equipment installed in each sump should be clearly documented for each month of operation in the annual remedial action summary report. More specifically, the date of installation and date of removal should be included in the documentation. In addition, if bailing was used instead of an automated passive skimmer, passive skimmer, or sorbent sock, this should also be clearly documented. This information is necessary to verify whether free-product recovery activities are being performed consistent with the decision document. The recommendations regarding the placement and use of product recovery equipment made for the NMCB Building Area, T-1416 Expanded Area site should also be considered by the Optimization Work Group for the SWMU 62, New Housing Fuel Leak site.

Sandy Cove Housing Area Data Review

Data Collection During This 5-Year Review Period. Groundwater samples were collected from wells 03-104, 03-155, 03-619, 03-697, 03-778, 03-802, 03-895, HMW-102-6, HMW-102-8, HMW-107-2, HMW-139-3, HMW-146-3, MRP-MW-2, MRP-MW-3, MW-107-1, MW-134-11, MW-146-1, and MW-187-1 for natural attenuation monitoring. Although monitoring was planned at wells 03-716, 03-808, HMW-184-1, HMW-184-2, MW-107-4, and MW-134-3, monitoring was not performed at these locations during this 5-year review period because these wells could not be located and are presumed destroyed. Monitoring was also planned for wells MW-139-2, MW-139-3, and MW-146-6. A sample could not be collected from MW-139-2, because the sample tubing clogged with biomaterials as a result of low water volumes in the well during the 2006 sampling event. It was subsequently removed from the sampling program. It is unclear why sampling was not performed at MW-139-3, because this well was included in the 2007 CMP and no reasons were provided in the 2007 annual groundwater monitoring report explaining why sampling was not performed. A sample was not collected from well MW-146-6, because this well was abandoned. Monitoring was conducted annually in the 18 wells listed above during this 5-year review period, with the following exceptions. Samples were not collected from well 03-104 in 2006 and from well MRP-MW-2 in 2008, because of the presence of free product. Sampling of wells 03-619 and MW-146-1 was initiated in 2007. Therefore, sampling was not performed in these wells in 2006. HMW-102-8 was sampled once in 2006, instead of sampling RW-102-2, which had free-product recovery equipment installed in the well and could not be sampled. MRP-MW-2 was not sampled in 2008, because the well was dry. Finally, RW-102-2 was not sampled in 2007 through 2010, but no explanation is provided as to why this location was dropped from the monitoring program. DRO, GRO, and BTEX analyses were conducted annually at all monitored natural attenuation wells from 2006 through 2010. NAPs analyses were conducted in 2006 and 2009.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 62, New Housing Fuel Leak, Sandy Cove Housing Area site relative to existing structures at the site. Apparent groundwater flow is to the southwest towards East Canal and to the south toward Sweeper Cove.

Analytical Results. Toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from all wells, except MRP-MW-3, during this 5-year review period. GRO concentrations were below the endpoint criterion in all samples collected from all wells, except wells MRP-MW-2 and MRP-MW-3, during this 5-year review period. Benzene concentrations were below the endpoint criterion in all samples collected from all wells, except wells MRP-MW-2, MRP-MW-3, and MW-187-1 during this 5-year review period. DRO concentrations were below the endpoint criterion in all samples collected from wells 03-619, 03-697, 03-802, 03-895, HMW-102-6, HMW-107-2, HMW-139-3, and MRP-MW-2 during this 5-year review period.

DRO was reported in groundwater samples collected at well 03-104 from 2006 to 2010 at concentrations ranging from 4,800 to 9,000 μg/L. The highest DRO concentration in this well was measured in the 2007 sample. The DRO concentrations in this well have consistently been greater than the endpoint criterion of 1,500 μg/L during this 5-year review period. DRO was reported in groundwater samples collected at well 03-155 from 2006 to 2010 at concentrations ranging from 1,500 to 3,300 μg/L. The highest DRO concentration in this well was measured in the 2008 sample. The DRO concentrations in this well have been greater than the endpoint criterion of 1,500 μg/L during this 5-year review period, except for in the sample collected in 2006. DRO was reported in groundwater samples collected at well 03-778 from 2006 to 2010 at concentrations ranging from 860 to 2,400 μg/L. The highest DRO concentration in this well was measured in the 2010 sample. The DRO concentrations in this well were greater than the endpoint criterion of 1,500 μg/L in 2006, 2007, and 2010. DRO was reported in groundwater samples collected at well HMW-146-3 from 2006 to 2010 at concentrations ranging from 1,100 to 1,900 µg/L. The highest DRO concentration in this well was measured in the 2006 sample. The DRO concentrations in this well were greater than the endpoint criterion of 1,500 µg/L in 2006 and 2010.

GRO was reported in groundwater samples collected at well MRP-MW-2 from 2006 to 2010 at concentrations ranging from 2,300 to 8,400 µg/L. The highest GRO concentration in this well was measured in the 2007 sample. The GRO concentrations in this well have consistently been greater than the endpoint criterion of 1,300 µg/L during this 5-year review period. Benzene was reported in groundwater samples collected at well MRP-MW-2 from 2006 to 2010 at concentrations ranging from 39 to 75 µg/L. The highest benzene concentration in this well was measured in the 2009 sample. The benzene concentrations in this well have consistently been greater than the endpoint criterion of 5 µg/L during this 5-year review period.

DRO was reported in groundwater samples collected at well MRP-MW-3 from 2006 to 2010 at concentrations ranging from 1,800 to 6,300 µg/L. The highest DRO concentration in this well was measured in the 2007 sample. GRO was reported in groundwater samples collected at well MRP-MW-3 from 2006 to 2010 at concentrations ranging from 38,000 to 40,000 µg/L. The highest GRO concentration in this well was measured in the 2009 sample. The DRO and GRO concentrations in this well have consistently been greater than their respective endpoint criteria during this 5-year review period. Benzene was reported in groundwater samples collected at well MRP-MW-3 from 2006 to 2010 at concentrations ranging from 2.4 to 5.5 µg/L. The highest benzene concentration in this well was measured in the 2009 sample. The benzene concentration in this well was greater than the endpoint criterion of 5 µg/L in 2009. Ethylbenzene was reported in groundwater samples collected at well MRP-MW-3 from 2006 to 2010 at concentrations ranging from 1,500 to 2,500 µg/L. The highest ethylbenzene concentration in this well was measured in the 2006 sample. The ethylbenzene concentrations in this well have consistently been greater than the endpoint criterion of 700 µg/L during this 5-year review period. Total xylenes were reported in groundwater samples collected at well MRP-MW-3 from 2006 to 2010 at concentrations ranging from 8,400 to 13,100 µg/L. The highest total xylenes concentration in this well was measured in the 2006 sample. The total xylenes concentrations in this well were greater than the endpoint criterion of 10,000 µg/L in 2006 and 2009.

DRO was reported in groundwater samples collected at well MW-107-1 from 2006 to 2010 at concentrations ranging from 3,400 to 4,400 µg/L. The highest DRO concentration in this well was measured in the 2010 sample. DRO was reported in groundwater samples collected at well MW-134-11 from 2006 to 2010 at concentrations ranging from 4,700 to 6,300 µg/L. The highest DRO concentration in this well was measured in the 2006 sample. DRO was reported in groundwater samples collected at well MW-146-1 from 2006 to 2010 at concentrations ranging from 6,800 to 13,000 µg/L. The highest DRO concentration in this well was measured in the 2010 sample. DRO was reported in groundwater samples collected at well MW-187-1 from 2006 to 2010 at concentrations ranging from 2,400 to 4,400 µg/L. The highest DRO concentration in this well was measured in the 2010 sample. The DRO concentrations in these four wells have consistently been greater than the endpoint criterion of 1,500 μg/L during this 5-year review period. Benzene was reported in groundwater samples collected at well MW-187-1 from 2006 to 2010 at concentrations ranging from 3.6 to 18 μg/L. The highest benzene concentration in this well was measured in the 2006 sample. The benzene concentrations in this well have been greater than the endpoint criterion of 5 μg/L during this 5-year review period, except for in the sample collected in 2010.

DRO concentrations at wells 03-104, 03-788, HMW-146-3, MW-107-1, MW-134-11, MW-146-1, and MW-187-1 have generally been stable from 2006 through 2010. DRO concentrations at well 03-155 exhibited an increasing trend. GRO and benzene concentrations at well MRP-MW2 have generally been stable from 2006 through 2010. Benzene concentrations at well MW-187-1 have exhibited a statistically significant decreasing trend. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria, or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing Area. Free-product recovery is a component of the final remedy for this site (U.S. Navy and ADEC 2006b). Therefore, monthly monitoring and free-product recovery were performed at this site during this 5-year review period. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness Summary 2006 Through 2010.” The following summarizes the significant product thickness data for the SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing.

Between November 1992 and September 2010, monitoring wells within the vicinity of the SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, nine wells were gauged weekly in September 2006 as part of free-product recovery system startup, nine wells were gauged monthly from October 2006 through September 2008, and two wells were gauged monthly from October 2008 through September 2009 as part of final remedy implementation. Although monitoring of MW-187-3 was planned as part of free-product recovery implementation, this well was not monitored because it could not be located.

Monitoring of well MW-134-8 was discontinued after September 2006, because the well was dry. The frequency of product thickness measurements at one well (03-104) was increased from annually to monthly after September 2006, because free product was detected in this well during the 2006 annual groundwater monitoring event. The frequency of product thickness measurements at seven wells was decreased from monthly to annually after September 2008. Therefore, the total number of wells monitored monthly for free product from October 2008 through September 2009 was two. These changes were based on recommendations made in the October 2006 to September 2007 remedial action summary report. This report indicated that monitoring was to be discontinued at these wells because product had not been detected at these wells in the past 6 months (April 2007 through September 2007). However, product was detected in wells HMW-102-1, MW-107-11, and RW-102-4 between October 2007 and September 2008. Free-product thickness measurements at SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing were discontinued after September 2009. The remedial action summary report for the period October 2008 through September 2009 recommended that monthly monitoring be discontinued at 03-104, because free product had not been detected for 12 months. No recommendation to either continue or discontinue monitoring at HMW-139-2 was made in this report. However, free product was detected in HMW-139-2 twice from October 2008 through September 2009.

Between October 2005 and September 2010, free product has been detected in five wells at the site. The maximum measured thickness of free product reported at the site since October 2005 was 2.7 feet, in well HMW-102-1 in September 2006. The maximum measured thickness of free product reported in other site wells where free product was measured at thicknesses greater than 0.1 foot was as follows:

- 0.23 foot in October 2006 at HMW-139-2
- 0.83 foot in September 2006 at MW-107-11

Free-Product Recovery. As discussed above for SWMU 62, New Housing Fuel Leak site, Eagle Bay Housing, interim free-product recovery at this site was conducted between 1989 and 2000, using active recovery systems (a dual-pump system from 1989 until October 1996 and a total-fluids product-recovery system from November 1996 until May 2000). The Navy prepared the *Draft Free-Product Recovery Closure Report for SWMU 62, New Housing Fuel Leak* that presented a comparison of the system recovery to endpoint criteria (U.S. Navy 1999). Based on the comparison of the volume of recovered product with the volume of total fluids pumped during 1999, the product recovery system at the SWMU 62, New Housing Fuel Leak site was shown to have met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD. Subsequently, the product recovery system was shut down on May 1, 2000. Free-product recovery was selected as part of the final remedy for the site in the decision document (U.S. Navy and ADEC 2006b). These additional free-product recovery activities were implemented at the site in September 2006. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled “Recovered Product Volume Summary 2006 Through 2010.”

Free-product recovery was conducted, if required, at nine wells in the vicinity of SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing during September 2006. Free-product recovery was conducted, if required, at nine wells from October 2006 through September 2008, and at two wells from October 2008 through September 2009. Monthly product recovery activities were discontinued at well MW-134-8 after September 2006, because the well was dry. Monthly product recovery activities were initiated at one well (03-104) after September 2006, because free product was detected in this well during the 2006 annual groundwater monitoring event. Monthly product recovery activities were discontinued at seven wells after September 2008 based on recommendations made in the October 2006 to September 2007 remedial action summary report. This report indicated that monthly free product recovery activities were to be discontinued at these wells, because product had not been detected at these wells in the past 6 months (April 2007 through September 2007). However, product was detected in wells HMW-102-1, MW-107-11, and RW-102-4 between October 2007 and September 2008. Monthly free-product recovery activities at SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing were discontinued after September 2009. The remedial action summary report for the period October 2008 through September 2009 recommended that monthly free-product recovery activities be discontinued at 03-104, because free product had not been detected for 12 months. No recommendation to either continue or discontinue free-product recovery activities at HMW-139-2 was made in this report. However, free product was detected in HMW-139-2 twice from October 2008 through September 2009.

No free product was recovered from the SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing during the annual groundwater monitoring events from 2006 through 2010. In September 2006, approximately 0.22 and 1.23 gallons were recovered during weekly free-product recovery activities from wells HMW-102-1 and MW-107-11, respectively. From October 2006 through September 2007, approximately 0.83 and 0.3 gallon was recovered from wells HMW-139-2 and MW-107-11, respectively. Free product was not recovered from any well during monthly free-product recovery activities from October 2007 through September 2009. Therefore, the total volume of free product recovered from SWMU 62, New Housing Fuel Leak site, Sandy Cove Housing for the period October 2005 through September 2010 was 2.58 gallons. The maximum volume of free product (1.53 gallons) was recovered from well MW-107-11 for the time period October 2005 through September 2010.

As discussed for the Eagle Bay Housing area, the technically practicable endpoint for passive recovery in site wells has been met at the SWMU 62, New Housing Fuel Leak site. The requirement states that “the practicable endpoint for recovery will be reached when the monthly volume of recovered product, averaged over the most recent 6 months (6-month moving average), is less than 5 gallons per month for a period of 12 months of product recovery." The 6-month moving average of product recovered was less than 5 gallons per month from October 2009 through September 2010.

Natural Attenuation Assessment (Both Sandy Cove and Eagle Bay)

Sulfate concentrations in 12 plume and downgradient wells are depleted (0.04 to 2.13 mg/L), compared to background (2.47 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations are elevated (0.01 to 100 mg/L), compared to background (0 mg/L), indicating the on-site occurrence of iron reduction. Finally, evidence of methanogenesis is observed at the SWMU 62, New Housing Fuel Leak site, as demonstrated by elevated methane concentrations in 20 on-site wells ranging from 1.8 to 10,000 μg/L, which exceed background (nondetected at 0.50 μg/L) (U.S. Navy 2010e).

Six wells do not appear to have significant biodegradation occurring, including 03-103, 03-109, 03-802, 03-898, HMW-303-12, and RW-303-13. All have concentrations of petroleum compounds below endpoint criteria and near or below method detection limits. NAPs data for the remaining wells within the contaminant plume strongly indicate that biodegradation of petroleum hydrocarbons is occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates that natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen's trend evaluation for the Sandy Cove portion of the site are summarized in Table 6-1. A decreasing trend was identified for benzene concentrations in groundwater samples from well MW-187-1. The remaining data sets were identified as having no trend or an increasing trend (U.S. Navy 2011a). The 2010 benzene concentration for MW-187-1 was below the endpoint criterion. As such, none of the data support estimation of the time to achieve endpoint criteria for the Sandy Cove portion of the site.

Results of the Mann-Kendall and Sen's trend evaluation for the Eagle Bay portion of the site are summarized in Table 6-1. A decreasing trend was identified for GRO concentrations in groundwater samples from well 03-502. The remaining data sets were identified as having no trend (U.S. Navy 2011a).

The Sen's slope was calculated for GRO concentrations in groundwater samples over time from well 03-502 in the 2010 annual report (U.S. Navy 2011a). Using the median and lower slope limits and the 2010 concentration in groundwater, GRO in groundwater from 03-502 could reach the endpoint criterion in 2011 or 2012. These endpoint dates assume that the 2010 trend continues. The remaining data sets do not support estimation of the time to achieve endpoint criteria.

Future Monitoring Recommendations

GRO and BTEX concentrations were below endpoint criteria, which are based on the ADEC cleanup levels, in all site wells, except MRP-MW-2, MRP-MW-3, and MW-187-1. Therefore, monitoring for GRO and BTEX should be discontinued at all site wells, except for these three. Monitoring at well HMW-139-3 should be discontinued, because concentrations of petroleum hydrocarbons in this cross-gradient well have been below the endpoint criteria during this 5-year review period. Although concentrations of petroleum hydrocarbons at cross-gradient well HMW-102-6 have been less than endpoint criteria, the concentration of DRO has been increasing in this well, and the concentration during the most recent sampling event was at the endpoint criterion. Annual monitoring should continue at all other site wells as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), with the modifications noted above.

Free-product monitoring and recovery activities at well MRP-MW3 will be initiated since greater than 0.02 foot of product was observed in this well during the September 2010 annual groundwater monitoring activities. The frequency of product-thickness measurements and free-product recovery at MRP-MW3, if required, should be performed six times per year.

6.4.26 Tanker Shed, UST 42494

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the Tanker Shed, UST 42494 site from 2006 through 2010. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected monitored natural attenuation with ICs and free-product recovery as the final remedy for this site (U.S. Navy and ADEC 2005a). In addition, the decision document specified that one additional soil sample would be collected from a location half way between locations TSSF9 and TSSB10 to evaluate the lateral extent of petroleum-related chemicals identified in this area, and one additional groundwater monitoring well would be installed downgradient of existing well 04-601 and upgradient of East Canal. Soil samples were to be collected during this new well installation. Results of this additional soil, groundwater, and surface water sampling are discussed in the Site Catalog in Appendix A. Groundwater samples were collected from Tanker Shed, UST 42494 site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to the Alaska groundwater cleanup levels [18 AAC 75.345]), to verify that natural attenuation is occurring and to evaluate groundwater quality downgradient of the site to serve as a warning indicator for potential impacts to the downgradient surface water body (East Canal).

Groundwater samples were collected from wells 04-601, TS-01 and TS-05 for surface water protection monitoring. Samples were collected annually from well 04-601. Samples were collected annually from wells TS-01 and TS-05 from 2006 through 2008 and every other year (even years) thereafter. The frequency of monitoring was reduced for these two wells, because no contaminant has exceeded endpoint criteria for at least 3 years and monitoring will continue to occur at well 04-601, which is located upgradient from these wells.

Groundwater samples were collected for DRO, GRO, and BTEX analysis from 2006 through 2007 in all three wells. Following the 2007 groundwater monitoring event, sampling for BTEX was discontinued at wells TS-01 and TS-05, because these contaminants had not exceeded endpoint criteria during the previous two monitoring events. Following the 2008 groundwater monitoring event, monitoring for toluene, ethylbenzene, and total xylenes was discontinued in well 04-601 and the frequency of monitoring for GRO and benzene was reduced to every other year (even years). Toluene, ethylbenzene, and total xylenes concentrations in this well have been less than endpoint concentrations since 2002. Continued monitoring of GRO and benzene was recommended at the reduced frequency, because these contaminants are detected at concentrations above endpoint criteria in upgradient wells.

Groundwater samples were collected from wells 04-175, 04-290, 04-306 and 04-601 for natural attenuation monitoring. The groundwater sampling conducted at 04-601 is discussed in the paragraph above and is not repeated here, because well 04-601 is used for both surface water protection monitoring and natural attenuation monitoring. Annual monitoring was planned for wells 04-175, 04-290, and 04-306. However, samples were not collected from well 04-306 in 2006 and 2007, because of the presence of free product. Groundwater samples were collected for DRO, GRO, and BTEX analysis in 2006 and 2007. Following the 2007 groundwater monitoring event, BTEX monitoring was discontinued at well 04-175, because these contaminants had not exceeded endpoint criteria in this well since annual monitoring began at the site. BTEX monitoring continued at wells 04-290 and 04-306 through 2009. Following the 2009 groundwater monitoring event, toluene, ethylbenzene, and total xylenes monitoring was discontinued at wells 04-290 and 04-306, because concentrations of these compounds were below endpoint criteria for at least two consecutive sampling events. Groundwater samples were collected for NAPs analysis in 2009.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the Tanker Shed, UST 42494 site relative to the inferred source area. Wells 04-601 and TS-01 are approximately 400 and 600 feet downgradient of the source area at this site. Wells 04-175, 04-306, and 04-290 are located along the approximate centerline of the dissolved plume at increasing distances from the source area, respectively. Well TS-05 is located approximately 600 feet downgradient of the source area and approximately 80 feet north of TS-01.

Analytical Results. Benzene, toluene, ethylbenzene, and total xylenes concentrations were below their respective endpoint criteria in all samples collected from all wells at this site during this 5-year review period. DRO concentrations were below the endpoint criterion in all samples collected from surface water protection wells 04-601, TS-01, and TS-05 during this 5-year review period, and GRO concentrations were equal to or less than the endpoint criterion in all samples collected from all wells, except well 04-306, during this 5-year review period.

DRO was reported in groundwater samples collected at well 04-175 from 2006 through 2010 at concentrations ranging from 4,700 to 11,000 μg/L. The highest DRO concentration was measured in the 2006 sample from this well. The concentrations of DRO in the samples from well 04-175 were all greater than the endpoint criterion of 1,500 μg/L. DRO was reported in groundwater samples collected at well 04-290 from 2006 through 2010 at concentrations ranging from 1,000 to 9,000 μg/L. The highest DRO concentration was measured in the 2006 sample from this well. The concentrations of DRO in the samples from well 04-290 were all greater than the endpoint criterion, except for the sample collected in 2007. DRO was reported in groundwater samples collected at well 04-306 from 2008 through 2010 at concentrations ranging from 4,300 to 5,200 μg/L. The highest DRO concentration was measured in the 2008 sample from this well. The concentrations of DRO in the samples from well 04-306 were all greater than the endpoint criterion. GRO was reported in groundwater samples collected at well 04-306 from 2008 through 2010 at concentrations ranging from 1,500 to 1,800 μg/L. The highest GRO concentration was measured in the 2008 sample from this well. The concentrations of GRO in the samples from well 04-306 were all greater than the endpoint criterion of 1,300 μg/L.

DRO concentrations at well 04-175, 04-290, and 04-306 were generally stable from 2006 through 2010, and GRO concentrations at well 04-306 were generally stable from 2006 through 2010. Trend evaluations were not conducted for wells with analytes that have not been detected above the endpoint criteria, or for wells for which there were less than four data points.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the Tanker Shed, UST 42494 site. Free-product recovery is a component of the final remedy for this site (U.S. Navy and ADEC 2005a). However, free-product recovery was discontinued in July 2005, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the final closure report (U.S. Navy 2006c). Although free-product recovery was discontinued in July 2005, monthly monitoring and free-product recovery were performed at three wells during this 5-year review period, based on a request by ADEC during comment resolution on the 2006 annual groundwater monitoring report. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C, and product thickness data collected during monthly free-product recovery activities are summarized in the Excel spreadsheet titled “Recovered Product Thickness

Summary 2006 Through 2010." The following summarizes the significant product thickness data for the Tanker Shed, UST 42494 site.

Between October 1996 and September 2010, monitoring wells within the vicinity of the Tanker Shed site have been gauged periodically for the presence of free product. However, only data collected since October 2005 are summarized here. As discussed above, monitoring wells were gauged during the annual groundwater monitoring events. In addition, three wells (04-176, 04-306, and 04-309) were gauged monthly from May 2007 through May 2010, concurrently with free-product recovery activities at South of Runway 18-36 Area, NMCB Building Area, and SWMU 62, New Housing Fuel Leak.

Between October 2005 and September 2010, free product has been detected in 11 wells, 04-175, 04-176, 04-178, 04-290, 04-302, 04-303, 04-304, 04-306, 04-309, 04-311, and 04-312, at the site. The maximum measured thickness of free product reported at the site since October 2005 was 1.38 feet in well 04-309 in September 2006. The maximum measured thickness of free product reported in wells 04-176 and 04-306 was 0.31 foot in September 2006 and 0.05 foot in September 2006, respectively. The thicknesses measured in all other wells were either 0.01 foot or a trace. The frequency of product thickness measurements at wells 04-176, 04-306, and 04-309 was decreased from monthly to annually after May 2010, because free product had not been observed at these wells since September of 2006, June of 2009, and September of 2008, respectively.

Free-Product Recovery. Interim free-product recovery was conducted at the Tanker Shed, UST 42494 site from January 1997 through November 2001. Product-recovery activities were restarted in August 2004 as part of final remedy implementation. Free-product recovery at the Tanker Shed site was discontinued after July 2005, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the free-product recovery closure report (U.S. Navy 2006c). However, in May of 2007, ADEC requested that the Navy resume free-product recovery at selected wells, including wells 04-176, 04-306, and 04-309, as discussed above. Free-product recovery was to be performed if the measured thickness is greater than 0.5 foot in a 2-inch well and greater than 0.1 foot in a 4- or 6-inch well. As discussed at the beginning of Section 6.4, recovered product volume data are summarized in Appendix C in an Excel spreadsheet titled "Recovered Product Volume Summary 2006 Through 2010."

Free product was recovered from well 04-309 during the 2006 and 2007 annual groundwater monitoring events. No free product was recovered from wells 04-176, 04-306, and 04-309 during monthly free-product recovery activities that occurred between May 2007 and May 2010. Approximately 7 gallons of free product were recovered from 04-309 during the annual groundwater monitoring events from October 2005 through September 2010. Note that the free product recovered during the 2007 annual groundwater monitoring event was emulsified.

Therefore, the reported volume includes water. As noted in the paragraph above, monthly product thickness measurements and free-product recovery, if required, were discontinued in wells 04-176, 04-306, and 04-309 after May 2010, because free product had not been observed in any site wells since June 2009.

From 2006 through 2008, free product was not always recovered from well 04-309 when free product thicknesses were greater than 0.1 foot. Well 04-309 is a 4-inch-diameter well. During the September 2007 monthly free-product recovery activities, free product was not recovered from well 04-309, though the product thickness was 0.14 foot. During the 2008 annual groundwater monitoring event, free product was not removed from the well, even though the product thickness was 0.14 foot. Since September 2008, free product has not been detected at thicknesses greater than 0.1 foot.

Natural Attenuation Assessment

Sulfate concentrations are depleted in wells 04-290 (0.56 mg/L) and 04-306 (0.35 mg/L), compared to background (2.52 mg/L), indicating sulfate reduction is occurring at the site. On-site ferrous iron concentrations are elevated (1 to 30 mg/L), compared to background (0 mg/L), indicating the on-site occurrence of iron reduction. Evidence of methanogenesis is observed at the Tanker Shed site, as demonstrated by elevated methane concentrations in on-site wells ranging from 2.8 to 3,200 μg/L, which exceed background conditions (0.38 μg/L) (U.S. Navy 2010e).

The 2009 NAPs results indicate that biodegradation of petroleum hydrocarbons is likely occurring by iron (II) reduction, sulfate reduction, and methanogenesis, which demonstrates natural attenuation of dissolved petroleum in groundwater is occurring at the site (U.S. Navy 2010e).

Results of the Mann-Kendall and Sen’s trend evaluation are summarized in Table 6-1. All evaluated data sets were identified as having no trend. As a result, Sen’s slopes were not calculated (U.S. Navy 2011a).

Simple linear regression was applied to DRO results for 04-175, because DRO concentrations in samples from this well do show a general decreasing trend. No level of confidence is applied to the regression. Applying the slope of the regressed line to the 2010 concentration provides a very rough estimate for time to achieve the endpoint criterion if the observed trend continues. If the current trends continue, DRO concentrations in groundwater from 04-175 could reach the endpoint criterion in 2014. The remaining data sets are not sufficient for use in estimating time to achieve endpoint criteria using simple regression.

Future Monitoring Recommendations

DRO and GRO are present in groundwater at concentrations above their respective endpoint criteria, which are based on the ADEC cleanup levels, in the source area. GRO has not exceeded its endpoint criterion in well 04-290 during this 5-year review period. Therefore, GRO monitoring should be discontinued at this well. Benzene concentrations have not exceeded the endpoint criterion in any wells during this 5-year review period. Therefore, benzene monitoring should be discontinued at this site. Concentrations of DRO, GRO, and benzene have remained below endpoint criteria in downgradient wells 04-601, TS-01, and TS-05 since 2006. Since well 04-601 acts as a sentinel well for downgradient wells TS-01 and TS-05, it is recommended that monitoring of 04-601 be continued and monitoring of TS-01 and TS-05 be discontinued. Monitoring should continue as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), with the exceptions noted above.

6.4.27 Yakutat Hangar, UST T-2039-A

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform annual groundwater monitoring at the Yakutat Hangar, UST T-2039-A site through 2006. The interim remedy specified for this site in the OU A ROD was free-product recovery (U.S. Navy, USEPA, and ADEC 2000). The Navy and ADEC have selected limited groundwater monitoring as the final remedy for this site (U.S. Navy and ADEC 2005a). In addition, the decision document specified that two additional surface water samples would be collected from the site. One sample was to be collected within the drainage ditch downgradient of the product recovery trench and one at the point where the ditch discharges into South Sweeper Creek, which is the regulatory point of compliance. Results of this additional surface water sampling are discussed in the Site Catalog in Appendix A. Groundwater samples were collected from Yakutat Hangar, UST T-2039-A site to evaluate groundwater quality relative to the endpoint criteria (for this site, the endpoint criteria are equal to 10 times the ADEC groundwater cleanup levels [18 AAC 75.345]) and groundwater quality downgradient of the site to serve as a warning indicator for potential impacts to the downgradient surface water body (South Sweeper Creek).

Groundwater samples were collected from wells 05-389 and 05-801 for surface water protection monitoring, and groundwater samples were collected from wells 05-221, 05-244, 05-250, and MW-2 for natural attenuation monitoring. Groundwater samples were collected from all six wells in 2006 and analyzed for DRO. Monitoring was discontinued at this site following the 2006 groundwater monitoring event, because concentrations of DRO had been less than the endpoint criterion during all monitoring events. ADEC granted the site “conditional closure with institutional controls” on May 1, 2007.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the Yakutat Hangar, UST T-2039-A site relative to potential source areas at the site and the downgradient surface water body, South Sweeper Creek. Monitoring wells 05-389 and 05-801 are located approximately 400 and 300 feet, respectively, downgradient of the source areas at the site and approximately 60 feet from the downgradient surface water body, South Sweeper Creek. Wells 05-244 and 05-250 are located near the source area and wells MW-2 and 05-221 are located within the dissolved plume at increasing downgradient distances.

Analytical Results. DRO concentrations were below the endpoint criterion (15,000 µg/L) in all samples collected from all wells at this site from 1999 through 2006.

Free-Product Monitoring. Free-product monitoring is performed as part of the annual groundwater monitoring at all petroleum sites, including the Yakutat Hangar, UST T-2039-A site. Free-product recovery is not a component of the final remedy for this site (U.S. Navy and ADEC 2005a). Therefore, monthly free-product monitoring and free-product recovery were not performed at this site. As discussed at the beginning of Section 6.4, all of the locations where free-product thickness measurements have been collected at this site are documented in the Site Catalog (Appendix A). Product thickness data collected during annual groundwater monitoring activities are summarized in the Excel spreadsheet titled “Summary of Product Thickness Data 2005 Through 2010” located in Appendix C. The following summarizes the significant product thickness data for the Yakutat Hangar, UST T-2039-A site.

Groundwater monitoring wells within the vicinity of the Yakutat Hangar, UST T-2039-A site have been periodically gauged for petroleum product. Gauging commenced in October 1996 and proceeded until September 2006. However, only data collected since October 2005 are summarized here. As part of the 2006 annual groundwater monitoring event, nine monitoring wells within the vicinity of the Yakutat Hangar, UST T-2039-A site were gauged for the presence of free product. Free product was not detected in any of the site wells in 2006.

Free-Product Recovery. Interim free-product recovery at the Yakutat Hangar, UST T-2039-A site was discontinued in November 2000, because free-product recovery met the practicable endpoint established for the shutdown of product recovery specified in the OU A ROD, as detailed in the free-product recovery closure report (U.S. Navy 2006c). In addition, free-product recovery is not a component of the final remedy for this site. Therefore, free-product recovery activities were not conducted at this site during this 5-year review period.

Future Monitoring Recommendations

Monitoring is no longer being performed at this site, because ADEC granted the site “conditional closure with institutional controls” on May 1, 2007.

6.4.28 SWMU 4, South Davis Road Landfill

Data Review

Data Collection During This 5-Year Review Period. Periodic monitoring of this site is not performed, because the remedy specified in the OU A ROD is landfill cover installation and ICs (U.S. Navy, USEPA, and ADEC 2000). Although periodic monitoring is not required, one sediment sample was collected during this 5-year review period. During the annual inspection of ICs in 2008, a groundwater seep was observed flowing out of the toe of the landfill along the shoreline and into adjacent Lake Andrew. A sediment sample (DL-01) was collected in 2009 to assess if contaminants in the landfill are migrating to adjacent Lake Andrew via this seep. Because no seep was observed flowing from the landfill at the time of the sampling, a seep sample was not collected. Lake water levels were observed to be higher than the previous year when the seep was observed and may have covered the area where the seep was located. The sediment sample collected at location DL-01 was analyzed for PCB, PAHs, including bis(2-ethylhexyl)phthalate, and 13 total priority pollutant metals. Since no sediment endpoint criteria have been developed for SWMU 4, sediment analytical results were compared to the endpoint criteria for sediments at SWMU 11, Palisades Landfill. The sediment sampling location is included in the technical memorandum for this additional sampling activity (U.S. Navy 2010i).

Analytical Results. Bis(2-ethylhexyl)phthalate was detected in the sediment sample at an estimated concentration of 110 μg/kg, which is below the endpoint criterion of 4,560 μg/kg. Target PAHs (benzo[a]pyrene, benzo[b]fluoranthene, and benzo[g,h,i]perylene) were detected in the sediment sample for which the sum was 7.0 μg/kg, well below the endpoint criterion of 1,700 μg/kg. Nontarget PAHs detected in the sample included naphthalene, 2-methylnaphthalene, phenanthrene, fluoranthene, pyrene, and chrysene, which ranged in concentration from 0.78 to 2.6 μg/kg. Aroclor-1260 was detected in the sediment sample (32 μg/kg) at a concentration above the endpoint criterion of 22.7 μg/kg. No other PCB was detected above method reporting limits. No target inorganic analytes was detected above endpoint criteria. However, concentrations below endpoint criteria of antimony, arsenic, chromium, and nickel were observed in the sediment sample. Concentrations of nontarget analytes, including beryllium, cadmium, copper, lead, mercury, selenium, thallium, and zinc, were also detected at very low levels in the sediment samples.

Future Monitoring Recommendations

The concentration of the PCB Aroclor-1260 in the one sediment sample collected at the site was found to slightly exceed the endpoint criterion for the Palisades Landfill. No endpoint criteria have been developed for the SWMU 4, South Davis Landfill site, and the risk-based endpoint criteria for the Palisades Landfill site may not be representative of risks associated with the SWMU 4, South Davis Road Landfill site. Therefore, additional sediment and surface water sampling are recommended for this site to verify site concentrations and to assess whether a site-specific risk assessment is warranted.

6.4.29 SWMU 11, Palisades Landfill

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform surface water and sediment monitoring at SWMU 11, Palisades Landfill from 2006 through 2010. The remedy specified for this site in the OU A ROD is landfill cover installation and ICs (U.S. Navy, USEPA, and ADEC 2000). Per OU A ROD requirements, surface water and sediment are monitored to evaluate the effectiveness of the remedy (landfill cover).

From 2006 through 2010, sediment samples were collected annually from three locations at the site (101, 102, and 103). Following the 2004 monitoring event, the frequency of PCB sampling was reduced to every other year (even years). Therefore, in 2006, samples were analyzed for SVOCs, PCBs, selected total metals, total organic carbon, and grain size. Following the 2006 monitoring event, sampling for total organic carbon and grain size was discontinued based on the 2007 CMP. Total organic carbon analysis was no longer required, because the endpoint criterion for PAHs was revised in the 2007 CMP, and carbon normalization of PAH concentration data was no longer required for comparison to the new endpoint criterion. From 2006 through 2008, surface water samples were collected every other year (even years) from two locations at the site (101 and 102). Samples were analyzed for selected total and dissolved metals. Following the 2006 landfill monitoring event, the frequency of surface water sampling was reduced to every other year (even years), because of low concentrations of total and dissolved metals. Following the 2008 landfill monitoring event, surface water sampling was discontinued, also because of low concentrations of total and dissolved metals since 1998. Specific analytes are total PCBs, Aroclors, bis(2-ethylhexyl)phthalate, selected PAHs, antimony, arsenic, chromium, and nickel.

The endpoint criteria for total PCBs, PAHs, arsenic, chromium, and nickel were revised in the 2007 CMP. Monitoring endpoint criteria for target analytes in sediments at SWMU 11 monitoring locations, including total PCBs as Aroclors, were changed to the effects range low (ERL) values. Marine ERLs, as specified by Long et al. 1995, were selected for PCBs, PAHs, arsenic, chromium, and nickel, because the primary exposure environment of concern is Kuluk Bay. The endpoint criterion for PAHs is the high molecular weight ERL of 1.7 mg/kg, which is compared to the sum of selected detected PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene). Similarly, the endpoint criterion for total PCBs is the ERL of 22.7 μg/kg. Long et al. 1995 does not specify ERLs for bis(2-ethylhexyl)phthalate and antimony. Therefore, the monitoring endpoint criteria for these two compounds were not changed.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring locations at the SWMU 11, Palisades Landfill relative to site features. Sampling location 101 represents the upgradient location along the Palisades Creek flow path northwest of the landfill before it enters the ponded area. Sampling location 102 is located where the surface water exits the landfill at the base of the metal debris. Sampling location 103 is located in the sandy bank of Palisades Creek just before it enters Kuluk Bay and represents a downgradient sampling point intended to evaluate the migration of contaminants beyond location 102. Sediment samples from locations 101 and 102 are considered freshwater sediment samples, and the sediment sample from location 103 is considered a marine sediment sample.

Sediment Monitoring Results. The sum of selected detected PAHs was below the endpoint criterion of 1,700 μg/kg in all sediment samples collected at this site during this 5-year review period. Bis(2-ethylhexyl)phthalate and chromium concentrations were below their endpoint criteria of 4,560 and 81,000 μg/kg, respectively, in all sediment samples collected at this site during this 5-year review period. Total PCBs, antimony, arsenic, and nickel concentrations were less than or equal to their endpoint criteria of 22.7, 2,000, 8,200, and 20,900 μg/kg, respectively, in sediment samples collected from locations 101 and 103 at this site during this 5-year review period.

Total PCBs were reported in sediment samples collected at location 102 from 2006 through 2010 at concentrations ranging from 1.5 to 300 μg/kg. The highest total PCB concentration was measured in the 2006 sample from this location. The concentrations of total PCBs in the samples from location 102 were greater than the endpoint criterion of 22.7 μg/kg, except for the sample collected in 2008. Antimony was reported in sediment samples collected at location 102 from 2006 through 2010 at concentrations ranging from undetected to 2.51 mg/kg. The highest antimony concentration was measured in the 2007 sample from this location. The concentrations of antimony in the samples from location 102 were greater than the endpoint criterion of 2 mg/kg, except for the samples collected in 2006 and 2008. Arsenic was reported in sediment samples collected at location 102 from 2006 through 2010 at concentrations ranging from 6.57 to 17.1 mg/kg. The highest arsenic concentration was measured in the 2008 sample from this location. The concentrations of arsenic in the samples from location 102 were greater than the endpoint criterion of 8.2 mg/kg, except for the samples collected in 2006 and 2010. Nickel was reported in sediment samples collected at location 102 from 2006 through 2010 at concentrations ranging from 8.1 to 33.4 mg/kg. The highest nickel concentration was measured in the 2007 sample from location 102. The concentrations of nickel in the samples from location 102 were greater than the endpoint criterion of 20.9 mg/kg, except for the samples collected in 2008 and 2010.

Surface Water Monitoring Results. Antimony, arsenic, chromium, and nickel were either not detected or detected at concentrations less than endpoint criteria. As a result, monitoring of surface water was discontinued following the 2008 landfill monitoring event.

Future Monitoring Recommendations

Although PAH and SVOC concentrations were below endpoint criteria in sediment samples collected from all locations at the site, the 2010 annual groundwater monitoring report recommended continued sampling for these constituents. PCBs and metals continue to be detected in sediment samples collected from location 102 at concentrations greater than endpoint criteria. Therefore, continued monitoring for these chemicals at all locations is recommended, as prescribed in the CMP, Revision 4 (U.S. Navy 2010a).

6.4.30 SWMU 13, Metals Landfill

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform groundwater monitoring at SWMU 13, Metals Landfill from 2006 through 2010. The remedy specified for this site in the OU A ROD is landfill cover installation and ICs (U.S. Navy, USEPA, and ADEC 2000). Per OU A ROD requirements, groundwater is monitored to evaluate the effectiveness of the remedy (landfill cover).

From 2006 through 2008, groundwater samples were collected every other year from eight locations at the site (MW13-1, MW13-2, MW13-3, MW13-4, MW13-5, MW13-603, MW13-604, and MW13-605) for VOC and SVOC analysis. For this same time period, groundwater samples were collected annually for total and dissolved metals analysis (arsenic and barium). Following the 2008 monitoring event, the frequency of total and dissolved metals analysis was decreased to every other year, because of continued low concentrations of these compounds. Analysis of samples collected from the site for VOCs and SVOCs was also discontinued following the 2008 monitoring event, because SVOC concentrations had not exceeded endpoint criteria since 2000 and VOC concentrations had never exceeded endpoint criteria. Specific target analytes are bis(2-ethylhexyl)phthalate, chlorobenzene, 1,4-dichlorobenzene, 1,3-dichlorobenzene, ethenes, arsenic, and barium.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 13, Metals Landfill relative to site features. All of the wells are located parallel to the shoreline of Kuluk Bay and are located downgradient of the center of the landfill.

Analytical Results. SVOC and VOC concentrations were below their respective endpoint criteria in all samples collected from all wells at this site during this 5-year review period. Dissolved and total arsenic and barium concentrations in groundwater have not been detected above endpoint criteria since sampling began in 1996. However, dissolved arsenic is routinely seen above the Adak background level of 2 μg/L in five of the eight wells at the site. During this 5-year review period, the maximum dissolved arsenic concentration was detected in well

MW13-2 at a concentration of 8.54 µg/L. Concentrations of barium were highest in samples collected from well MW-605 with concentrations of 52.9 to 60.7 µg/L dissolved barium and 55.1 to 67.1 µg/L total barium during this 5-year review period. Adak background levels for dissolved and total barium are 45.2 and 54.4 µg/L, respectively. Therefore, dissolved and total barium concentrations detected in well MW-605 were consistently greater than the Adak background concentration. Sample results for arsenic and barium have remained stable with relatively no change in trend, with the exception of total and dissolved arsenic concentrations in well MW13-2, which appear to be increasing.

Future Monitoring Recommendations

Target analytes have not been detected at concentrations greater than endpoint criteria in groundwater samples collected from eight monitoring wells at the site since 2001. Based on these results, RAOs are being met. Although endpoint criteria have been met in all eight wells at this site for more than two consecutive sampling rounds, the 2010 annual landfill monitoring report recommended continued sampling at a reduced frequency of once every 5 years.

6.4.31 SWMUs 18/19, White Alice Landfill

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform groundwater and surface water monitoring at SWMUs 18/19, White Alice Landfill from 2006 through 2010. The remedy specified for this site in the OU A ROD is soil cover installation and ICs (U.S. Navy, USEPA, and ADEC 2000). Per OU A ROD and State of Alaska solid waste regulations, the performance of landfill closure actions (landfill cover) is monitored at the site.

The Navy conducted groundwater monitoring at two locations (21-3 and 21-4) and surface water monitoring at three seep locations (WASW01, WASW02, and WASW03) at SWMUs 18/19, White Alice Landfill every other year (even years) during this 5-year review period. In 2006 and 2008, the samples were analyzed for VOCs, total inorganics (TIN), dissolved inorganics (DIN), water quality parameters (WQPs), and total dissolved solids (TDS). Following the 2008 landfill monitoring event, monitoring for VOCs was discontinued, based on historical data of VOC sampling at White Alice Landfill combined with the lack of exceedances of the endpoint criteria. Specific target analytes are arsenic, barium, nickel, and chromium.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMUs 18/19, White Alice Landfill relative to site features. Well 21-3 is located downgradient of the landfilled area to the southwest, and well 21-4 is located to the northeast of the landfill. Seep sampling location WASW01 is located west of the landfilled area along a small, south-southwest flowing creek that drains the landfill cap. Seep sampling location

WASW02 is located approximately 600 feet south of WASW01. Seep sampling location WASW03 is located to the east of the landfill.

Seep Monitoring Results. VOCs were either not detected or detected at concentrations less than the endpoint criteria in surface water samples collected from this site during this 5-year review period. No DIN or TIN included on the target analyte list for the White Alice Landfill was detected above the endpoint criteria during this 5-year review period. However, dissolved mercury was detected in the sample collected from WASW03 in 2006 at a concentration slightly greater than the endpoint criterion of 0.15 µg/L. In addition, the reporting limit was greater than the endpoint criteria for samples collected in 2008 and 2010 at all surface water sampling locations at this site.

Groundwater Monitoring Results. VOCs were either not detected or detected at concentrations less than the endpoint criteria in groundwater samples collected from this site during this 5-year review period. No DIN or TIN included on the target analyte list was detected in groundwater above the endpoint criteria during this 5-year review period. One inorganic on the target analyte list was detected above the Adak background concentration in the groundwater collected from well 21-3 during the 2006 landfill monitoring event. Dissolved arsenic was detected at a concentration of 4.7 µg/L, which is above the Adak background concentration of 2 µg/L. All inorganics not on the target analyte list were detected at concentrations less than Alaska groundwater cleanup levels (18 AAC 75.345) during this 5-year review period.

Future Monitoring Recommendations

Target analytes were not detected in surface water or groundwater at concentrations greater than endpoint criteria or Alaska groundwater cleanup levels (18 AAC 75.345). However, the nontarget analyte mercury exceeded the endpoint criterion in the surface water sample collected from WASW03 in 2006. In addition the reporting limit was greater than the endpoint criterion during all sampling events after 2006. Therefore, monitoring should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a).

6.4.32 SWMU 25, Roberts Landfill

Data Review

Data Collection During This 5-Year Review Period. The Navy continued to perform groundwater and surface water monitoring at SWMUs 25, Roberts Landfill from 2006 through 2010. The remedy specified for this site in the OU A ROD is soil cover installation and ICs (U.S. Navy, USEPA, and ADEC 2000). Per OU A ROD and State of Alaska solid waste regulations, the performance of landfill closure actions (landfill cover) is monitored at the site.

The Navy conducted annual groundwater monitoring at four locations (A-2, A-3, A-5, and B-1) and annual surface water monitoring at five locations (RLSW01, RLSW02, RLSW03, RLSW04, and RLSW05) at SWMU 25, Roberts Landfill during this 5-year review period. The samples have been analyzed for VOCs, TIN, DIN, WQPs, and TDS. However, following the 2007 annual landfill monitoring event, the frequency of VOC analysis was reduced to every other year (odd years), because VOCs had not been detected at concentrations above endpoint criteria in groundwater or surface water samples collected at Roberts Landfill from 2001 through 2007. The 2007 sampling event concluded 5 years of annual post-closure monitoring since the landfill was closed in 2002. Furthermore, the 2007 landfill monitoring report recommended that VOCs be removed from the monitoring program at this landfill if, during the next two sampling events, VOCs continue to be reported below the endpoint criteria. A sixth surface water sample, RLSW06, was collected in 2009 immediately on the east side of Happy Valley Road, downgradient of where surface water originating from the ponded area at location RLSW03 sheet flows across a concrete pad, into the roadside ditch and then through a culvert under Happy Valley Road. A sample was collected at this new location to determine if aluminum and copper exceedances at RLSW03 are impacting Mitt Creek. Because concentrations of aluminum and copper exceeded endpoint criteria at RLSW06, the 2009 landfill monitoring report recommended collecting two additional surface water samples in 2010 (NL-11 and NL-12). One was collected in the drainage below RLSW06 and immediately upstream of the confluence of Mitt Creek and the other one was to be collected in Mitt Creek immediately downstream of confluence with the northern surface water pathway. The samples from RLSW06, NL-11, and NL-12 were analyzed for total aluminum and total copper. Finally, during the 2010 landfill monitoring event, one additional surface water sample (NL-13) was collected at SWMU 25, Roberts Landfill. This sample was collected at a new seep identified during the sampling event. This sample was also analyzed for TIN and DIN. The specific target analytes for Roberts Landfill are ethenes, BTEX, priority pollutant total metals antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc.

The Site Catalog in Appendix A includes a figure that shows the location of the monitoring wells at the SWMU 25, Roberts Landfill relative to site features. Well A-2 is located along the northwestern perimeter of the landfill, while wells A-3 and A-5 are located downgradient of the eastern boundary. Well B-1 is located near the southern boundary. Surface water sampling locations RLSW01 and RLSW02 lie within the landfill boundary. Surface water sampling location RLSW03 is located downgradient of the eastern boundary between wells A-3 and A-5 in a small creek that runs parallel to the eastern boundary and empties into Sweeper Cove. Surface water sampling locations RLSW04 and RLSW05 are located within a creek that is east of the RLSW03 creek, which flows to the north-northeast and also empties into Sweeper Cove.

Surface Water Monitoring Results. VOCs were either not detected or detected below endpoint criteria in surface water samples collected at this site during this 5-year review period. Except for aluminum and copper, total and dissolved metals were either not detected or detected at concentrations below endpoint criteria in surface water samples collected at this site during this 5-year review period. However, the reporting limit for mercury was generally greater than the endpoint criterion.

Total aluminum was reported in surface water samples collected at location RLSW03 from 2006 through 2010 at concentrations ranging from 1,270 to 3,700 μg/L. The highest total aluminum concentration was measured in the 2008 sample from this location. The concentrations of total aluminum in the samples from location RLSW03 were all greater than the endpoint criterion of 87 μg/L. Total aluminum was reported in the surface water sample collected in 2009 at location RLSW06, which is downgradient of RLSW03, at a concentration of 136 μg/L. The concentration of total aluminum in the sample from this location was greater than the endpoint criterion. Total aluminum was not detected at concentrations above endpoint criterion in any samples collected at locations RLSW01, RLSW02, RLSW04, RLSW05, NL-11, NL-12, and NL-13 during this 5-year review period. No endpoint criterion has been established for dissolved aluminum.

Total copper was reported in surface water samples collected at location RLSW03 from 2006 through 2010 at concentrations ranging from 92.9 to 161 μg/L. The highest total copper concentration was measured in the 2008 sample from this location. The concentrations of total copper in the samples from location RLSW03 were all greater than the endpoint criterion of 12 μg/L. Total copper was reported in the surface water sample collected in 2009 at location RLSW06, which is downgradient of RLSW03, at a concentration of 112 μg/L. Total copper was reported in the surface water sample collected in 2009 at location NL-11, which is downgradient of both RLSW03 and RLSW06, at a concentration of 32.4 μg/L. The concentration of total copper in the samples from RLSW06 and NL-11 were both greater than the endpoint criterion. Total copper was reported in surface water samples collected at location RLSW05 from 2006 through 2010 at concentrations ranging from 23.5 to 44.8 μg/L. The highest total copper concentration was measured in the 2009 sample from this location. The concentrations of total copper in the samples from location RLSW05 were all greater than the endpoint criterion of 12 μg/L. Total copper was not detected at concentrations above endpoint criterion in any samples collected at locations RLSW01, RLSW02, RLSW04, NL-12, and NL-13 during this 5-year review period. No endpoint criterion has been established for dissolved copper.

Groundwater Monitoring Results. VOCs were either not detected or detected below endpoint criteria in surface water samples collected at this site during this 5-year review period. Total and dissolved metals, except chromium, were either not detected or detected at concentrations below endpoint criteria in groundwater samples collected at this site during this 5-year review period. Total chromium was reported in surface water samples collected at well A-3 from 2006 through 2010 at concentrations ranging from 1.4 to 107 μg/L. The highest total chromium concentration was measured in the 2010 sample from this location. The concentrations of total chromium in the samples from location A-3 were all less than the endpoint criterion of 100 μg/L, except the concentration in the sample collected in 2010. Total copper was detected at concentrations above the Adak background concentration in the groundwater samples collected from well A-3 from 2006 through 2010. Total copper was reported at concentrations ranging from 104 to 531 μg/L, which are all above the Adak background concentration of 69.5 μg/L.

Future Monitoring Recommendations

Total aluminum and total copper have been measured at concentrations greater than the endpoint criterion in surface water samples from the site. Because concentrations of aluminum and copper exceeded endpoint criteria at RLSW06 in 2009, this location should be added to the landfill monitoring program. Monitoring at NL-11 should be continued, because the concentration of copper exceeded the endpoint criterion in 2010. In addition, monitoring at NL-12 should also be continued, because this location is within Mitt Creek downstream of NL-11. Monitoring at the newly observed seep (NL-13) should be discontinued, because endpoint criteria were not exceeded.

VOCs have not been detected in surface water or groundwater at the site at concentrations above endpoint criteria. If concentrations of VOCs are below endpoint criteria during the 2011 landfill monitoring event, sampling for VOCs in surface water and groundwater may be recommended to be discontinued. Because more than five years of post-closure monitoring data have been collected at Roberts Landfill and concentrations of total and dissolved metals in groundwater were below endpoint criteria during this 5-year review period at all wells except A-3, monitoring for metals in groundwater should be discontinued at site wells except A-3. Therefore, annual surface water monitoring for total and dissolved inorganics and annual groundwater monitoring at well A-3 for total and dissolved inorganics should be continued as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), with the changes discussed above. Monitoring for VOCs in surface water and groundwater should only be performed in 2011, as prescribed in the CMP, Revision 4 (U.S. Navy 2010a), unless VOCs are detected above endpoint criteria in 2011.

6.5 RESULTS OF SITE INSPECTION

Inspections have been conducted annually at OU A, OU B-1, and OU B-2 sites beginning in 2002. In addition to the annual inspections, site inspections were also performed in 2010 as part of this 5-year review (Section 6.5.5). The discussion in the sections below is based on a review of inspection reports generated for years 2006 through 2010 (U.S. Navy 2007g, 2008e, 2009d, 2010h, and 2011b).

The ICMP (U.S. Navy 2001a, 2005c, 2007d and 2010a) establishes the requirements for inspections and management of ICs and ECs on Adak. Sites where ICs and/or ECs have been established were inspected as part of the annual monitoring events conducted during September or October of each year. The annual inspections are intended to ensure that ICs and ECs remain effective in protecting human health and the environment. Sites at which ICs or ECs did not appear to be functioning as intended or have been damaged are discussed below, together with corrective measures that have been implemented. Sites at which ICs and ECs are functioning as intended are not discussed. The current IC and EC requirements for all sites are tabulated in Section 4 (Table 4-1). In addition to the annual inspections, separate site inspections were performed during the summer of 2010 to independently assess the effectiveness of the ICs or ECs as part of this 5-year review (Section 6.5.5).

Given the remote nature of Adak Island, the limited field season, and weather conditions that challenge air access, the Navy plans actions to address deficiencies in ICs and ECs identified during annual inspections after the report has been finalized and then implements the remedies during the next field season. More substantial landfill repairs sometimes require additional time for planning and contracting and are completed as soon as practical, but not necessarily during the next field season after they are identified.

6.5.1 Results of 2006 Institutional Controls Inspections

Recommendations based on observations made during the 2006 inspections are discussed in this section together with actions the Navy took during the 2006 field season to ensure that the ICs and ECs remain protective. The ICs and/or ECs at sites not discussed in this section were deemed to be functioning as intended and protective of human health and the environment.

Excavation Notifications and Restrictions

The City Manager for the City of Adak reported that no excavation notifications were filed between September 2005 and September 2006. However, the City reported one excavation, for a waterline repair, across the street from the SWMU 15, Future Jobs/DRMO IC area. It is unclear why an excavation notification was not prepared for the waterline repair. However, compliance with the excavation notification requirements has improved since 2006. NAVFAC Northwest received one excavation notification from City Electric at the end of August 2006 to install fiber optic telephone and cable service throughout the SWMU 62, New Housing Fuel Leak site.

No sites were impacted by the excavations performed during this period, except for the ongoing Navy IC repairs (landfill cap and erosion repairs at SWMUs 13 and 25) and remedy installation (product recovery trench at South of Runway 18-36) performed by a Navy contractor following regulator-approved work plans.

At some sites, such as former landfills (or where the remedy in place is a protective cover), excavation by non-Navy personnel is prohibited, with exceptions for a very few specific circumstances. Additionally, excavation for the purpose of digging domestic water wells is prohibited in the downtown area and in the Remote Area sites, where it is necessary to protect the integrity of the ongoing petroleum cleanups. During September 2005 through September 2006, no excavation was observed at any site where excavation was prohibited.

Education Program

During the 2006 institutional controls inspections, the Navy conducted informal interviews with on-island personnel regarding the educational program and potential improvements. Interviews were conducted with residents and visitors. These interviews were intended to ensure that educational programs were functioning in accordance with the ICMP and applicable RODs.

Surveys were performed with several residents and visitors. The surveys indicated that, in general, the community and visitors were aware of land use restriction, 13 of 14 (93 percent). Fewer were aware of the fish consumption advisory, 9 of 14 (64 percent). Ten of 14 (71 percent) were aware of the ordnance safety awareness video. Only 4 of 13 (31 percent) were aware of the excavation notification requirements, and only 4 of 13 (31 percent) were aware of the toll-free telephone number and e-mail address to contact for additional information on institutional controls (U.S. Navy 2007g).

Kuluk Bay and Sweeper Cove

An updated marine monitoring fact sheet was made available in January 2006. The January 2006 fact sheet described the results of the 1999 through 2003 and 2005 monitoring of the rock sole and blue mussels in Sweeper Cove and Kuluk Bay (U.S. Navy 2007g).

SWMU 2, Causeway Landfill

The ICs at SWMU 2 are listed in Table 4-1. During the inspection in September 2006, there were no indications of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2007g).

The ECs at SWMU 2 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. As recommended in the 2005 IC inspection report, new signs indicating the presence of a buried landfill were placed between the causeway road and the landfill (U.S. Navy 2007g).

SWMU 4, South Davis Road Landfill

The ICs at SWMU 4 are listed in Table 4-1. During the inspection in September 2006, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2007g).

The ECs at SWMU 4 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. As recommended in the 2005 IC inspection report, new signs indicating the presence of a buried landfill were placed between the access road and the landfill (U.S. Navy 2007g).

SWMU 11, Palisades Landfill

The ICs at SWMU 11 are listed in Table 4-1. During the inspection in September 2006, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2007g).

The ECs at SWMU 11 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. One sign at the southwestern corner of the landfill was discovered to be damaged, and replacement was recommended (U.S. Navy 2007g).

SWMU 13, Metals Landfill

The ICs at SWMU 13 are listed in Table 4-1. During the 2006 inspection, there was no indication of a change in land use in this area. The site did not appear to be in use. No residential construction had occurred at the site. There was no indication that groundwater was being used at the site. There was no indication of excavation activity, except for repair work on the drainage swale area that had been identified during the 2005 IC inspection. Signs were in good condition. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2007g).

The ECs at SWMU 13 are listed in Table 4-1. During the 2005 inspection, the drainage swale liner on the north side of the landfill was damaged in some locations, and there was a recommendation to place a sign at the entrance to the landfill. Corrective action was taken in August of 2006 to repair the swale liners. The liners were in good condition when inspected later in 2006. Signs were present at the perimeter of the landfill. A new sign has been installed at the main gate on the west side of landfill, as recommended from the 2005 inspection. The main gate consists of a lockable cable that prohibits vehicle access. The ECs appear to be functioning as intended to protect human and ecological receptors from exposure to soil or groundwater (U.S. Navy 2007g).

SWMU 25, Roberts Landfill

The ICs at SWMU 25 are listed in Table 4-1. During the inspection in September 2006, there was no indication of a change in land use in this area. The site did not appear to be in use, and no residential construction had occurred at the site. There was no indication that groundwater was being used at the site, nor of excavation activities. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2007g).

The ECs at SWMU 25 are listed in Table 4-1. At the time of inspection, vegetation was found to be sparse in two locations on the cap. One location coincided with that described by the inspector in 2004. The other area where vegetation is sparse was located just south of a small pond on the west side of the landfill. Runoff from the pond was flowing directly south on the cap and was bypassing two existing drainages. Erosion had occurred in the area between the two drainages, and some landfill debris had been exposed. Along the western perimeter of the landfill, soil under one section of fencing had eroded. The erosion was due to the presence of a natural drainage in the area. The fence in this location was in good condition. The fence around the remainder of the landfill was also intact and in good condition. During the 2006 field season, areas of erosion noted in 2005 were repaired and minor fencing repairs were made (U.S. Navy 2007g).

SWMU 29 Finger Bay Landfill

The ICs at SWMU 29 are listed in Table 4-1. During the inspection in September 2006, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2007g).

The ECs at SWMU 29 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. As recommended in the 2005 IC inspection report, new signs indicating the presence of a buried landfill were placed between the access road and the landfill (U.S. Navy 2007g).

SWMU 62, New Housing Fuel Leak

The ICs and ECs at SWMU 62 are listed in Table 4-1. During the inspection in September 2006, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication that groundwater was being used at the site.

Trenching had been done throughout the residential area and along the Adak main road by City Electric under contract for Adak Cable and Telephone in Anchorage. Adak Cable started trenching activities under the impression that they had right-of-way privileges and would not need a permit. Adak Cable submitted an excavation notification request to the on-site Navy Technical Representative when they became aware that the notification request was required. Additionally, a remedial action excavation to install a fuel recovery trench along the east side of Runway 18-36 was in progress during the inspection and was scheduled to be completed in October. No other excavation was identified during the inspection. The excavated areas were planned to be revegetated (U.S. Navy 2007g).

SWMU 67, White Alice PCB Spill Site

The ICs at SWMU 67 are listed in Table 4-1. During the inspection in September 2006, there was no indication of a change in land use in this area. No residential construction had occurred at the site. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2007g).

The ECs at SWMU 67 are listed in Table 4-1. At the time of inspection in September 2006, the cover appeared to be intact and undisturbed. There was no sign identifying that excavation in this area was prohibited, as required by the ICMP (U.S. Navy 2007g).

OU B-1 and OU B-2 Ordnance Areas

In 2006, Navy personnel conducted an inspection of the OU B sites to look for areas where security could be improved around the perimeter of Parcel 4. Fence repairs were conducted in 2006, including replacing 300 feet of existing fence along the east perimeter of the SA 93 site.

The Navy EOD team responded to the discovery of approximately 70 smoke pots during 2006. In early September 2006, the EOD team moved the smoke pots from TAC land to Parcel 4, where the smoke pots were burned. Burning is the preferred method of disposal for smoke pots.

6.5.2 Results of 2007 Institutional Controls Inspections

Recommendations based on observations made during the 2007 inspections are discussed in this section, together with actions the Navy took during the 2007 field season to ensure that the ICs and ECs remain protective. The ICs and/or ECs at sites not discussed in this section were deemed to be functioning as intended and protective of human health and the environment.

Excavation Notifications and Restrictions

One Excavation Notification Request form was submitted in 2007 for placement of Bureau of Land Management survey markers and accessories in eight SWMUs. There was no evidence of unauthorized excavation in the downtown area during IC inspections.

At some sites, such as former landfills (or where the remedy in place is a protective cover), excavation by non-Navy personnel is prohibited, with exceptions for a very few specific circumstances. Additionally, excavation for the purpose of digging domestic water wells is prohibited in the downtown area and in the Remote Area sites, where it is necessary to protect the integrity of the ongoing petroleum cleanups. During September 2006 through September 2007, no excavation was observed at any sites where excavation was prohibited.

Education Program

During the 2007 ICs inspections, the Navy conducted informal interviews with on-island personnel regarding the educational program and potential improvements. Interviews were conducted with residents and visitors. These interviews were intended to ensure that educational programs were functioning in accordance with the ICMP and applicable RODs.

Surveys conducted in September 2007 indicated that, in general, the community and visitors were aware of land use restriction, 16 of 16 (100 percent). Fewer were aware of the fish consumption advisory, 11 of 13 (85 percent). Eleven of 13 (85 percent) were aware of the ordnance safety awareness video. Eleven of 13 (85 percent) were aware of the excavation notification requirements and 9 of 13 (69 percent) were aware of the toll-free telephone number and e-mail address to contact for additional information on ICs (U.S. Navy 2008e).

SWMU 11, Palisades Landfill

The ICs at SWMU 11 are listed on Table 4-1. During the inspection in September 2007, there were no indications of a change in land use in this area. No residential construction had occurred at the site. There were no indications of excavation activities. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2008e).

The ECs at SWMU 11 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. One sign that was observed as being damaged in 2006 had been replaced along with the addition of one more sign. The inspectors noted minor damage to both the east and west drainage swales (U.S. Navy 2008e).

SWMU13, Metals Landfill

The ICs at SWMU 13 are listed in Table 4-1. During the inspection in September 2007, there was no indication of a change in land use in this area. The site did not appear to be in use. No residential construction had occurred at the site. There was no indication that groundwater is being used at the site, nor of excavation activities at the site. Signs were in good condition. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2008e).

The ECs at SWMU 13 are listed in Table 4-1. A few small tears were observed in the Channel #7 swale liner. Three new signs were identified around the perimeter of the landfill. In addition, a new sign was installed at the main gate on the west side of the landfill, as recommended from the 2005 inspection. A new gate was also installed during the 2006 repair activities. The gate was upgraded and consisted of a lockable swing-type 6-inch pipe with center post that prohibits vehicle access. During a supplemental inspection conducted in August 2007, the inspection identified the need for repairs at two drainage swales (#4 and #9). Other than these two drainage swales and the swale mentioned above, the ECs appear to be functioning as intended to protect human and ecological receptors from exposure to soil or groundwater (U.S. Navy 2008e).

SWMU 17, Power Plant 3

The ICs and ECs at SWMU 17 are listed in Table 4-1. During the September 2007 inspection, there was no indication of a change in land use in this area. However, ADEC identified petroleum staining beneath a waste oil tank during this site inspection. ADEC directed the City of Adak to address this issue. No residential construction had occurred at the site. There was no indication that groundwater was being used at the site. There was no indication of excavation activity, and no excavation notification had been filed the previous year for this site. Therefore, ICs appear to be functioning as intended in the OU A ROD to protect human receptors from exposure to soil or groundwater (U.S. Navy 2008e).

SWMUs 18/19, White Alice Landfill

The ICs at SWMUs 18/19 are listed in Table 4-1. During the inspection in September 2007, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2008e).

The ECs at SWMUs 18/19 are listed in Table 4-1. At the time of the 2007 inspection, the cover appeared to be intact and undisturbed. In general, the fencing and signage were intact, except for a small approximately 30-foot portion of fencing along South Sector Road (U.S. Navy 2008e).

SWMU 25, Roberts Landfill

The ICs at SWMU 25 are listed in Table 4-1. During the September 2007 inspection, there was no indication of a change in land use in this area. The site did not appear to be in use. No residential construction had occurred at the site. There was no indication that groundwater is being used at the site, nor excavation activity. Signs were in good condition. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2008e).

The ECs at SWMU 25 are listed in Table 4-1. At the time of 2007 inspection, vegetation was found to be growing in the sparse area observed during the 2006 inspection. Other areas of the landfill have lush vegetation. Along the western perimeter of the landfill, soil under one section of fencing had eroded. This area is well outside and off of the landfill cap. The fence in this location was still in good condition, and the soil surrounding the fence posts has not been compromised. The fence around the remainder of the landfill was also intact and in good condition. During the 2007 field season, there were five fence repairs made to areas identified in 2006 where strands of barbed wire had broken (U.S. Navy 2008e).

SWMU 67, White Alice PCB Spill Site

The ICs at SWMU 67 are listed in Table 4-1. During the inspection in September 2007, there was no indication of a change in land use in this area. No residential construction had occurred at the site. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2008e).

The ICs at SWMU 67 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. The "No Excavation" signs that were absent from the site in September 2006 were installed during the 2007 field season (U.S. Navy 2008e).

OU B-1 and OU B-2 Ordnance Areas

The Navy has imposed access restrictions at the OU B, Parcel 4 area. Besides maintaining the UXO awareness program for OU B sites, the Navy has implemented some additional ECs at Parcel 4 to limit access to Navy-retained lands. The ECs include partial perimeter fencing with attached warning signs and blocked roadways with locked gates.

During July and August 2007, perimeter fencing around the northeast side of Parcel 4 was repaired. In addition, 15 new UXO warning signs were installed along the east, south, and west boundaries. During the September 2007 inspection of Parcel 4, the south and east boundaries were inspected and the new signs were observed to be in place. The perimeter fencing along the northeast perimeter was also confirmed to have been repaired. The gate along the southeast entrance to Parcel 4 was found to be locked and in good condition. A new UXO warning sign was also observed at this entrance.

Overall, the ECs for Parcel 4, including the new LUC/UXO awareness video at the air terminal, were concluded in the 2007 inspection report to be helping to ensure that unauthorized access to Parcel 4 is limited.

In 2007 a hunting guide reported a broken 75-mm round on the ground, located approximately 20 minutes by foot from Lake Betty. The item was located on a ridgeline, with no water body nearby. The guide flagged the discarded military munition (DMM), recorded Global Positioning System coordinates, and notified the Navy. The Navy EOD team responded to the find and destroyed the DMM.

Also in 2007, hunters reported to the guide making the report regarding the 75-mm round that they had seen the tail fins of a DMM item projecting more than 1 foot out of the ground. This item was reported to be located at the extreme northern tip of the south spit of Shagak Bay. NAVFAC Northwest instructed the City of Adak to contact the EOD team regarding this item.

In 2007 the EOD team also destroyed a cache of commercial small arms ammunition collected by island authorities. This cache included several boxes of rusted shotgun shells and other small ammunition recovered from the old police station. Also included were empty commercial cartridge cases from a 3-inch gun that had been dug up by a contractor working in the Small Boat Harbor in the 2004-2005 time frame.

6.5.3 Results of 2008 Institutional Controls Inspections

Recommendations based on observations made during the 2008 inspections are discussed in this section, together with actions the Navy took during the 2008 field season to ensure that the ICs and ECs remain protective. The ICs and/or ECs at sites not discussed in this section were deemed to be functioning as intended and protective of human health and the environment.

Excavation Notifications and Restrictions

No Excavation Notification Request forms were submitted from September 2007 through September 2008, even though extensive excavations took place at four sites, including MAUW Compound; Mount Moffett Power Plant 5; SWMU 58/SA 73, Heating Plant 6; and SA 88, Building P-70 Energy Generator. There have also been reports of the City performing excavations in the SWMU 62, New Housing Fuel Leak residential area to repair or install utility lines. The IC requirement for excavation notifications appears to have been disregarded during this period.

At some sites, such as former landfills (or where the remedy in place is a protective cover), excavation by non-Navy personnel is prohibited, with exceptions for a very few specific circumstances. Additionally, excavation for the purpose of digging domestic water wells is prohibited in the downtown area and in the Remote Area sites, where it is necessary to protect the integrity of the ongoing petroleum cleanups. During September 2007 through September 2008, no excavation was observed at any site where excavation was prohibited.

Education Program

During the 2008 ICs inspections, the Navy conducted informal interviews with on-island personnel regarding the educational program and potential improvements. Interviews were conducted with residents and visitors. These interviews were intended to ensure that educational programs were functioning in accordance with the ICMP and applicable RODs (U.S. Navy 2009d).

Surveys were performed with several residents and visitors and indicated that, in general, the community and visitors were nearly all aware of land use restriction, 14 of 15 (93 percent). Fewer were aware of the fish consumption advisory, 9 of 15 (60 percent). Eight of 15 (53 percent) were aware of the ordnance safety awareness video. Eleven of 15 (73 percent) were aware of the excavation notification requirements, and 8 of 15 (53 percent) were aware of the toll-free telephone number and e-mail address to contact for additional information on ICs (U.S. Navy 2009d).

SWMU 4, South Davis Road Landfill

The ICs at SWMU 4 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009d).

The ICs at SWMU 4 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and mostly undisturbed, except for some tire tracks/ruts at the southeastern portion of the landfill. Standing water was noted in the north drainage swale, and water was seeping out of the toe of the west-central part of the landfill on the shoreline of Lake Andrew (U.S. Navy 2009d).

SWMU 11 Palisades Landfill

The ICs at SWMU 11 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009d).

The ECs at SWMU 11 are listed in Table 4-1. At the time of the September 2008 inspection, the cover appeared to be intact, undisturbed, and heavily vegetated. Deficient swale liners noted in 2007 had been recently repaired. However, the southwest drainage swale liner had small holes and tears of less than 1 inch present. The southeast sign was partially broken and in need of repair. A small pond approximately 15 feet in diameter was observed in the upper portion of the ravine on the landfill. Slightly southwest of the ravine, a sinkhole was observed of approximately 8 to 10 feet deep and 8 feet in diameter. Metal and landfill debris was exposed inside of the sinkhole. Erosion was observed on the slope immediately above the sinkhole (U.S. Navy 2009d).

SWMU 13, Metals Landfill

The ICs at SWMU 13 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. The site did not appear to be in use. No residential construction had occurred at the site. There was no indication that groundwater is being used at the site, nor of excavation activity at the site. Signs were in good condition. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009d).

The ECs at SWMU 13 are listed in Table 4-1. During the September 2008 inspection several EC deficiencies were noted by the inspector. Drainage swales #2, #3, #4, and #7 did not have any gravel cover on the swale lining. Drainage swale #7 was observed to have several small holes with dandelions growing through the liner. On the northeast corner of the landfill, a large quantity of old metal debris is located on the armor wall down to the shoreline. Adak residents had complained to Navy representatives that they want this metal debris removed, since it represents a safety and environmental hazard because of the proximity of a recreational beach to the north. North of where drainage swale #7 meets the coast of Kuluk Bay, approximately 200 yards in length of the cliff edge and parts of the armor wall had eroded away. It was recommended that the armor wall be reinforced in this area and the eroded area at the top of the cliff be repaired. Gravel had eroded away in drainage swale #2, where it meets the shoreline armor wall. It was recommended that the armor wall be reinforced in this area and the gravel replaced in the swale. South of drainage swale #2, approximately 50 yards of the cliff edge and parts of the armor wall had eroded away. This erosion along the armor rock seawall had exposed debris from the landfill, causing the debris to fall down the beach along the shoreline. It was recommended that the exposed debris be removed, the armor wall be reinforced, and eroded area at the top of the cliff be repaired (U.S. Navy 2009d).

SWMU 15, Future Jobs/Defense Reutilization Marketing Office

The ICs and ECs at SWMU 15 are listed in Table 4-1. During the September 2008 inspection, no change to the site was observed, compared to the 2007 inspection results. The site was being used or commercial purposes including fishing equipment storage, which is appropriate under the ICMP. No residential construction had occurred at the site. No indication of groundwater use or excavation activity was found. The "Excavation Restriction" sign had been wedged into the fence to keep it erect. It was recommended a new sign be erected. The ICs appear to be functioning as intended in the OU A ROD to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009d).

SWMU 17, Power Plant 3

The ICs and ECs at SWMU 17 are listed in Table 4-1. During the 2007 inspection, petroleum staining was observed beneath the waste oil tank, and ADEC notified the City of Adak to address this issue. This staining was still observed to be present during the September 2008 inspection. Additionally, approximately one-hundred-fifty 55-gallon drums were observed stacked three high behind a fenced area on the northwest side of the building. Visible drums were labeled "Heavy Duty SAE 40 Engine Oil" and were sitting directly on the ground with no liner or pallet underneath the drums. No other change to the site was observed, compared to the 2007 inspection results. No residential construction had occurred at the site. No indication of groundwater use or excavation activity was found. Excavation restriction signs were clearly visible. Therefore, ICs appear to be functioning as intended in the OU A ROD to protect human receptors from exposure to soil or groundwater. However, it was recommended that the City of Adak be notified regarding the oil spill and drum storage issues (U.S. Navy 2009d).

SWMUs 18/19, White Alice Landfill

The ICs at SWMUs 18/19 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009d).

The ECs at SWMUs 18/19 are listed in Table 4-1. At the time of the 2008 inspection, the cover appeared to be intact and undisturbed, except on the southwest corner of the landfill immediately on the outside of the fencing where a large eroded area was observed on the steep hillside. A smaller eroded area was also observed at the southern fence line. The perimeter fencing at the site had several damaged sections along the western and southern boundaries totaling approximately 120 feet (U.S. Navy 2009d).

SWMU 20, White Alice/Trout Creek Disposal Area

The ICs at SWMU 20 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009d).

The ECs at SWMU 20 are listed in Table 4-1. At the time of the 2008 inspection, one of the two signs located at this site was found to be damaged and barely attached to the sign post. Additionally, debris eroding out of the hillside was found, and a large sinkhole had formed on the edge of the cliff face that contained pooled water and debris. The drainage swale on this site contained some standing water and did not appear to be working effectively. The vegetation along the ridge and hillside appeared to be stressed or dead (U.S. Navy 2009d).

SWMU 25, Roberts Landfill

The ICs at SWMU 25 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. The site did not appear to be in use, and no residential construction had occurred at the site. There was no indication that groundwater is being used at the site and no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009d).

The ECs at SWMU 25 are listed in Table 4-1. During the site inspection, many changes to the site were noted. It was found that approximately 16 areas of multiple sections of fencing along the perimeter of the landfill were damaged, for a total of about 3,220 feet in need of repair. Approximately nine signs along the perimeter of the landfill were in need of repair. The northern boundary of the landfill had three road entrances that did not have gates or signs present restricting entry. One area on the east central boundary has a gate consisting of a heavy duty cable attached to gate posts but the cable was loose and was almost resting on the ground. All-terrain vehicle (ATV) tracks/ruts were observed on the landfill cap next to caribou droppings, indicating the landfill was potentially being used by hunters. The southern boundary was found to be securely gated. Approximately six areas along the fence line had erosion occurring underneath the fence. One area of erosion occurred on the southernmost gate entrance on the inside portion of the road. The largest of the erosion areas occurred on the eastern boundary on a hill face, measuring approximately 20 feet long by 15 feet high. The remaining eroded areas under the fence ranged in size from 15 to 50 feet. Sinkholes on the western and eastern borders were found ranging from 2 to 8 feet deep by 3 to 20 feet in length and 1 to 3 feet in width. Areas of standing water were present on the landfill and varied in size from small puddles to large puddles of roughly 70 feet in diameter noted on the south end of landfill. Throughout the landfill, numerous areas of bare soil and sparse vegetation were found (U.S. Navy 2009d).

SWMU 29, Finger Bay Landfill

The ICs at SWMU 29 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2009x).

The ECs at SWMU 29 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. Minor ponding was observed, although no impact to the overall site condition was noted by the inspector (U.S. Navy 2009d).

NMCB Building Area, T-1416 Expanded Area

The ICs and ECs at the NMCB Building Area, T-1416 Expanded Area are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater. Inspectors noted five polyethylene overpack drums staged on the south side of the building with an approximately 5-foot-diameter area of oil-stained soil observed under the drums. A portable 150-gallon gasoline tank was located on the west side of the east building in a lined, bermed area. Two tanker fuel trucks were parked in front of the east building, and three 55-gallon drums of SAE 30 motor oil and a car battery were sitting on the ground next to the northeast corner of the east building. Because these poor housekeeping practices may be contributing to groundwater contamination, it was recommended that the owners be directed to address the areas of actual or potential spills (U.S. Navy 2009d).

SWMU 58/SA 73, Heating Plant 6

The ICs and ECs for SWMU 58/SA 73 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area and no residential construction had occurred at the site. However, unauthorized excavations were noted by the inspectors by contractors salvaging copper from former power supply lines and systems. It was recommended by the inspectors that the Navy notify the City and Aleut Enterprise Corporation of the deficiencies and reinforce the need for excavation permits. Additionally, this site lacked “no excavation” signs and it was recommended that two signs be installed (U.S. Navy 2009d).

SA 88, P-70 Energy Generator

The ICs and ECs for SA 88 are listed on Table 4-1. During the inspection in September 2008, there were no indications of a change in land use in this area and no residential construction had occurred at the site. However, unauthorized excavations were noted by the inspectors by contractors salvaging copper from former power supply lines and systems. It was recommended by the inspectors that the Navy notify the City and Aleut Enterprise Corporation of the deficiencies and reinforce the need for excavation permits. Additionally, transformer oil was noted to have been spilled from these operations. ADEC performed a PCB analysis of the oil using a field test kit. Results did not indicate the presence of PCBs. Two wells were also noted to have been destroyed at this site, and an excavation sign was dug up and replaced (U.S. Navy 2009d).

Mount Moffett Power Plant 5 (USTs 10574 through 10577)

The ICs and ECs for Mount Moffett Power Plant 5 are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area, and no residential construction had occurred at the site. However, the inspectors noted unauthorized excavations by contractors salvaging copper from former power supply lines and systems. It was recommended by the inspectors that the Navy notify the City and AEC of the deficiencies and reinforce the need for excavation permits (U.S. Navy 2009d).

MAUW Compound (UST 24000-A)

The ICs and ECs for MAUW Compound are listed in Table 4-1. During the inspection in September 2008, there was no indication of a change in land use in this area and no residential construction had occurred at the site. However, the inspectors noted unauthorized excavations by contractors salvaging copper from former power supply lines and systems. It was recommended by the inspectors that the Navy notify the City and Aleut Enterprise Corporation of the deficiencies and reinforce the need for excavation permits (U.S. Navy 2009d).

OU B-1 and OU B-2 Ordnance Areas

The September 2008 IC inspection included visual assessment of these Parcel 4 ECs from outside Parcel 4. Specifically, fencing on the northern, eastern, and southern perimeters of SA 93 WWII Mortar Impact Area and the gate at the Lake Andrew recreational cabin were inspected. Additionally, the southern and eastern perimeter fencing and the southern gate at SWMU 1 Lake Andrew Waste Ordnance Demolition Range were inspected. Changes to the site compared to 2007 observations are discussed in the remainder of this section.

On the northern boundary of SA 93, over 16 sections of fencing in need of repair were found. In addition to the 16 sections, fencing was down for approximately one-half mile along the northwest corner, and signs were observed on the ground. Some of this fencing appears to have been intentionally cut to drive ATVs through, as evidenced by tracks leading into the parcel.

Some sections of fencing were also observed in need of repair along the eastern and southern sections of SA 93. Fencing is intact in many spots along this perimeter, but many sections of fencing along the eastern and southern boundary are fully or partially buried by tall grass and tundra. Also, two eroded areas were observed along the eastern perimeter, jeopardizing fence integrity or allowing easy access under the fence. The gate along the southwestern entrance to SA 93 at the Lake Andrew recreational cabin was inspected and found to be locked and in good condition.

The gate along the southeast entrance to SWMU 1, Lake Andrew Waste Ordnance Demolition Range was inspected and found to be locked and in good condition. Inspectors were escorted by the UXO contractor past the gate to inspect the fencing along the lake shore road, which is easily accessible to hikers. Several sections of fencing and signs were observed to be damaged along this section of the perimeter.

The following recommendations were made based on the 2008 inspection:

- Repair all sections of damaged perimeter fencing and damaged signs.
- Install a gate at the northern boundary of SA 93 that contractors may use when work must be conducted within the site boundary so Parcel 4 access can be controlled.
- Evaluate whether tall tundra grass is detrimental to the effectiveness of the barrier fence.
- Install erosion controls and repair the two damaged eroded areas along the eastern perimeter of SA 93.

In September 2008, there was a report of a 155-mm projectile (DMM) found in the rocks near the Metals Landfill. The NAVFAC Northwest Navy Technical Representative reported that the round was unfired and appeared to have washed out of the landfill. The item was reported to the EOD team, which was arriving on island on Thursday of the week of the report.

6.5.4 Results of 2009 Institutional Controls Inspections

Recommendations based on observations made during the 2009 inspections are discussed in this section, together with actions the Navy took during the 2009 field season to ensure that the ICs and ECs remain protective. The ICs and/or ECs at sites not discussed in this section were deemed to be functioning as intended and protective of human health and the environment.

Excavation Notifications and Restrictions

No Excavation Notification Request forms were submitted to the City from September 2008 through September 2009. The City clerk stated that she was unaware of the requirement to submit excavation notifications to the Navy. There was no evidence of unauthorized excavation in the downtown area during IC inspections. It is recommended that a method be instituted for annually informing City employees.

At some sites, such as former landfills (or where the remedy in place is a protective cover), excavation by non-Navy personnel is prohibited, with exceptions for a very few specific circumstances. Additionally, excavation for the purpose of digging domestic water wells is prohibited in the downtown area and in the Remote Area sites, where it is necessary to protect the integrity of the ongoing petroleum cleanups. During September 2008 through September 2009, no excavation was observed at any site where excavation was prohibited.

Education Program

During the 2009 ICs inspections, the Navy conducted informal interviews with on-island personnel regarding the educational program and potential improvements. Interviews were conducted with residents and visitors. These interviews were intended to ensure that educational programs were functioning in accordance with the ICMP and applicable RODs.

Surveys were performed with 15 residents and visitors. The survey questionnaire was more extensive than in previous years. The surveys indicated that 73 percent of the residents, school children, and visitors (11 of 15) were aware of the ordnance awareness video. All (100 percent) residents, school children, and visitors were aware of land use restriction. One of five residents (20 percent) was aware of the fish consumption advisory. Two of five (40 percent) residents were aware of the ordnance safety awareness video. Four of five (80 percent) residents know to call 911 if they find suspected ordnance material. Five of five (100 percent) residents were aware that land use restrictions apply to some areas on Adak. Three of five (60 percent) residents were aware that digging on Adak requires Navy approval. Nine of ten (90 percent) residents and visitors were aware that entry onto Navy-retained property (Parcel 4) is prohibited. Only one of five (20 percent) residents was aware of the Navy outreach Web site and toll-free telephone number. Nine of ten (90 percent) residents and visitors were aware of the hiking maps detailing the land use restrictions and ordnance awareness. Four of five (80 percent) residents were aware that there are areas on Adak that cannot be excavated at all. Two of five (40 percent) residents were aware that groundwater use in the downtown area is prohibited (U.S. Navy 2010h).

SWMU 4, South Davis Road Landfill

The ICs at SWMU 4 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2010h).

The ECs at SWMU 4 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and mostly undisturbed, except for some tire tracks/ruts at the southeastern portion of the landfill. Flowing water was noted in the north drainage swale, and water was seeping out of the toe of the west-central part of the landfill on the shoreline of Lake Andrew. These conditions are similar to what was observed in 2008. Additionally, approximately 30 feet of landfill liner was exposed along the shoreline of Lake Andrew (U.S. Navy 2010h).

SWMU 11, Palisades Landfill

The ICs at SWMU 11 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2010h).

The ECs at SWMU 11 are listed in Table 4-1. At the time of the inspection, the cover appeared to be intact, undisturbed, and heavily vegetated. Deficient swale liners noted in 2007 had been recently repaired. However, the southwest drainage swale liner had small holes and tears of less than 1 inch present. The southeast sign was partially broken and in need of repair. A small pond approximately 15 feet in diameter was observed in the upper portion of the ravine on the landfill. Slightly southwest of the ravine, a sinkhole was observed of approximately 8 to 10 feet deep and 8 feet in diameter. Metal and landfill debris was exposed inside of the sinkhole. Erosion was observed on the slope immediately above the sinkhole. These conditions are similar to what was observed in 2008 (U.S. Navy 2010h).

SWMU 13, Metals Landfill

The ICs at SWMU 13 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. The site did not appear to be in use. No residential construction had occurred at the site. There was no indication that groundwater is being used at the site. There was no indication of excavation activity at the site. Signs were in good condition. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater.

The ECs at SWMU 13 are listed in Table 4-1. During the September 2009 inspection, several EC deficiencies were noted. Drainage swales #2, #3, #4, and #7 did not have any gravel cover on the swale lining. Drainage swale #7 was observed to have several small holes with dandelions growing through the liner. On the northeast corner of the landfill, a large quantity of old metal debris is located on the armor wall down to the shoreline. Adak residents had complained to Navy representatives that they want this metal debris removed, since it represents a safety and environmental hazard because of the proximity of a recreational beach to the north. North of where drainage swale #7 meets the coast of Kuluk Bay, approximately 200 yards in length of the cliff edge and parts of the armor wall have eroded away. It is recommended that the armor wall be reinforced in this area and the eroded area at the top of the cliff be repaired. Gravel has eroded away in drainage swale #2, where it meets the shoreline armor wall. It is recommended that the armor wall be reinforced in this area and the gravel replaced in the swale. South of drainage swale #2, approximately 50 yards of the cliff edge and parts of the armor wall has eroded away. This erosion along the armor rock seawall has exposed debris from the landfill causing the debris to fall down the beach along the shoreline (U.S. Navy 2010h).

SWMU 15, Future Jobs/Defense Reutilization Marketing Office

The ICs and ECs at SWMU 15 are listed in Table 4-1. During the September 2009 inspection, no indication of groundwater use or of excavation activity was found, and no residential construction had occurred at the site. The site is used for commercial purposes, including fishing equipment storage, which is appropriate under the ICMP (U.S. Navy 2010h).

The “Excavation Restriction” sign that had been wedged into the fence to keep it erect in 2008 was missing. It was recommended that a new sign be erected. The ICs appear to be functioning as intended in the OU A ROD to protect human receptors from exposure to soil or groundwater.

SWMU 17, Power Plant No. 3

The ICs and ECs at SWMU 17 are listed in Table 4-1. During the 2007 inspection, petroleum staining was observed beneath the waste oil tank and ADEC directed the City of Adak to address this issue. This staining was still observed to be present during the September 2009 inspection. The approximately one-hundred-fifty 55-gallon drums had been removed that were observed stacked three high behind a fenced area on the northwest side of the building. No other change to the site was observed, compared to the 2008 inspection results. No residential construction had occurred at the site. No indication that groundwater was being used, nor of excavation activity was found. Excavation restriction signs were clearly visible. Therefore, ICs appear to be functioning as intended in the OU A ROD to protect human receptors from exposure to soil or groundwater (U.S. Navy 2010h).

SWMUs 18/19, White Alice Landfill

The ICs at SWMUs 18/19 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activities. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2010h).

The ECs at SWMU 18/19 are listed in Table 4-1. At the time of the 2009 inspection, the cover appeared to be intact and undisturbed, except on the southwest corner of the landfill immediately on the outside of the fencing, where a large eroded area was observed on the steep hillside. A smaller eroded area was also observed at the southern fence line. The perimeter fencing at the site had several damaged sections along the western and southern boundaries, totaling approximately 120 feet. These conditions are similar to what was observed in 2008. Additionally, new erosion was noted to have occurred on the south, northeast, and northwest portions of the landfill (U.S. Navy 2010h).

SWMU 20, White Alice/Trout Creek Disposal Area

The ICs at SWMU 20 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2010h).

The ECs at SWMU 20 are listed in Table 4-1. At the time of the inspection, one of the two signs located at this site was found to be damaged and barely attached to the sign post. Additionally, debris eroding out of the hillside was found, and a large sinkhole had formed on the edge of the cliff face that contained pooled water and debris. The drainage swale on this site contained some standing water and did appear to be working effectively. The vegetation along the ridge and hillside appeared to be stressed or dead. These conditions are similar to what was observed in 2008 (U.S. Navy 2010h).

SWMU 25, Roberts Landfill

The ICs at SWMU 25 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. The site did not appear to be in use, and no residential construction had occurred at the site. There was no indication that groundwater is being used at the site, and there was no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2010h).

The ECs at SWMU 25 are listed in Table 4-1. During the September 2009 site inspection, none of the repairs recommended in the 2008 IC inspection report were observed to have been completed. In addition, the following concerns were noted. It was found that approximately 16 areas of multiple sections of fencing along the perimeter of the landfill were damaged, for a total of about 3,220 feet in need of repair. Approximately nine signs along the perimeter of the landfill were in need of repair. The northern boundary of the landfill has three road entrances that do not have gates or signs present restricting entry. One area on the east central boundary has a gate consisting of a heavy duty cable attached to gate posts, but the cable is loose and is almost resting on the ground. The ATV tracks noted last year appear to be filling with vegetation. The southern boundary is securely gated.

Approximately six areas along the fence line had erosion occurring underneath the fence. One area of erosion occurred on the southernmost gate entrance on the inside portion of the road. The largest of the erosion areas occurred on the eastern boundary on a hill face approximately 20 feet long by 15 feet high. The remaining eroded areas under the fence ranged in size from 15 to 50 feet. Sinkholes on the western and eastern borders were found ranging from 2 to 8 feet deep by 3 to 20 feet in length and 1 to 3 feet in width. The sinkhole south of well MWA-2 had a perennial stream flowing through it, which originated on the landfill and is the cause of the sinkhole. Areas of standing water were present on the landfill and varied in size from small puddles to large ponds of roughly 70 feet in diameter noted on the south end of landfill. Throughout the landfill, numerous areas of bare soil and sparse vegetation were found. Repairs were recommended.

No indication of a change in land use in this area was found. The site did not appear to be in use. No residential construction had occurred at the site. No indication of groundwater use or excavation activity was found at the site (U.S. Navy 2010h).

SWMU 29, Finger Bay Landfill

The ICs at SWMU 29 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2010h).

The ECs at SWMU 29 are listed in Table 4-1. The landfill cover appeared to have some eroded areas in the west central portion. A 100- by 30-foot eroded area adjacent to a smaller 40- by 30-foot eroded area contained some metal debris protruding through the cap along with areas of standing water. A 30-foot-diameter area of ponded water (considered minor by the inspector), which was observed in the central region of the landfill in 2008, was observed again in 2009. A second small, square ponded area approximately 8 feet in length and located between the two eroded areas was also observed during the inspection. Water was observed flowing overland from the two ponded areas to the wetland located to the south of the landfill. Because of the flat topography, the stream flow was very low and did not appear to be impacting the landfill cap. It was recommended that eroded areas be repaired and revegetated and surface water runoff control measures be installed to prevent further erosion and landfill debris from surfacing (U.S. Navy 2010h).

SA 78, Old Transportation Building

The ICs and ECs for SA 78 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. No residential construction had occurred at the site, and there was no evidence of excavation. The site lacked a “No Excavation” sign, and it was recommended that one be installed (U.S. Navy 2010h).

SWMU 58/SA 73, Heating Plant 6

The ICs and ECs for SWMU 58/SA 73 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area, and no residential construction had occurred at the site. Unauthorized excavations noted in 2008 had been filled and leveled. Additionally, this site still lacked “No Excavation” signs noted in 2008, and it was recommended that two signs be installed (U.S. Navy 2010h).

SA 88, P-70 Energy Generator

The ICs and ECs for SA 88 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area, and no residential construction had occurred at the site. Unauthorized excavations noted in 2008 had been filled and leveled. Additionally, two wells noted to have been destroyed had not been properly decommissioned (U.S. Navy 2010h).

Mount Moffett Power Plant 5 (USTs 10574 through 10577)

The ICs and ECs for Mount Moffett Power Plant 5 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area, and no residential construction had occurred at the site. Unauthorized excavations noted in 2008 had been filled and leveled (U.S. Navy 2010h).

MAUW Compound (UST 24000-A)

The ICs and ECs for the MAUW Compound are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area, and no residential construction had occurred at the site. Unauthorized excavations noted in 2008 had been filled and leveled (U.S. Navy 2010h).

NMCB Building Area, T-1416 Expanded Area

The ICs at the NMCB Building Area, T-1416 Expanded Area are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater. Inspectors noted five polyethylene overpack drums staged on the south side of the building with an approximately 5-foot-diameter area of oil-stained soil observed under the drums. A portable, 150-gallon gasoline tank was located on the west side of the east building in a lined, bermed area. Two tanker fuel trucks were parked in front of the east building and three 55-gallon drums of SAE 30 motor oil and a car battery were sitting on the ground next to the northeast corner of the east building. Because these poor housekeeping practices may be contributing to groundwater contamination, it was recommended that the owners be notified to address the areas of actual or potential spills. These conditions are similar to what was observed in 2008 (U.S. Navy 2010h).

OU B-1 and OU B-2 Ordnance Areas

Fencing on the northern, eastern, and southern perimeters of SA 93 WWII Mortar Impact Area and the gate at the Lake Andrew recreational cabin were inspected in 2009. Additionally, the southern and eastern perimeter fencing and the southern gate at SWMU 1, Lake Andrew Waste Ordnance Demolition Range were inspected. Observations of SA 93 were generally the same as 2008 and included the following:

- On the northern boundary approximately 25 sections of fencing were found in need of repair.

- In addition to the 25 sections, fencing is down for approximately one-half mile along the northwest corner, and signs were observed on the ground. Some of this fencing appears to have been intentionally cut to drive ATVs through, as evidenced by tracks leading into the parcel, which was also observed in 2008.

- At the fence-line road and SA 82 road intersection on the eastern boundary, erosion was observed to still be occurring next to a large sinkhole filled with water. Water was flowing from the sinkhole across the road and under the fence, "causing erosion of the road" and at the fence. Nine sections of fence were observed in need of repair at this location.

- An additional six sections of fencing were down along the eastern perimeter approximately one-quarter mile south of the sink hole.

- Several sections of fencing were down along the southern perimeter, the same as observed in 2008.

- Fencing is generally intact along this perimeter, but many sections of fencing along the eastern and southern boundaries are fully or partially buried by tall grass and tundra.

- The gate along the southwestern entrance to SA 93 at the Lake Andrew recreational cabin was inspected and found to be locked and in good condition.

The 2009 inspection results for SWMU 1 were generally the same as those from 2008 and included the following:

- The gate along the southeast entrance to SWMU 1 was inspected and found to be locked and in good condition.

- Southern perimeter fencing near the gate appears to be intact.

- Only one UXO warning sign was observed along the southern approach routes to Lake Andrew and SWMU 1.

- Four of the UXO warning signs that were placed in this area could not be located.

Recommendations for this site include the following:

- Repair all sections of damaged perimeter fencing and damaged signs.

- Install a gate at the northern boundary of SA 93 that contractors may use when work must be conducted within the site boundary so that Parcel 4 access can be controlled.

- Evaluate whether tall tundra grass is detrimental to the effectiveness of the barrier fence.
- Install erosion controls and repair the damaged eroded areas along the eastern perimeter of SA 93.
- Replace four UXO danger signs along the Lake Andrew entrances to Parcel 4.

In May 2009 there was a report by Adak residents of 50-caliber bullets on the hill behind the Metals Landfill. The Navy Remedial Project Manager explained the process for DMM reporting to the City of Adak and provided the contact information for the EOD team. The EOD team elected not to respond, because these items are not considered an explosive hazard, and recommended that the items be handled by personnel already on island.

6.5.5 Results of 2010 Institutional Controls and 5-Year Review Site Inspections

IC inspections occurred in August and September 2010. In addition, in August 2010, site inspections were performed to support the 5-year review. Recommendations based on observations made during the 2010 IC and 5-year review site inspections (Appendix D) are discussed in this section, together with actions the Navy took during the 2010 field season to ensure that the ICs and ECs remain protective. The ICs and/or ECs at sites not discussed in this section were deemed to be functioning as intended and protective of human health and the environment.

Excavation Notifications and Restrictions

From September 2009 through September 2010, seven Excavation Notification Request forms were submitted to the Navy and none were to the City. There was no evidence of unauthorized excavation in the downtown area during IC inspections.

No site was impacted by the excavations performed during this period, except for the ongoing Navy operational and maintenance activities, including the 2010 IC repairs (landfill cap and erosion repairs) performed by a Navy contractor and remedy evaluation using soil vapor probes, soil borings, and additional monitoring wells performed by the Navy contractor. The repair and site characterization work was performed following regulator-approved work plans.

At some sites, such as former landfills (or where the remedy in place is a protective cover), excavation by non-Navy personnel is prohibited, with exceptions for a very few specific circumstances. Additionally, excavation for the purpose of digging domestic water wells is prohibited in the downtown area and in the Remote Area sites, where it is necessary to protect the integrity of the ongoing petroleum cleanups. During September 2009 through September 2010, no excavation was observed at any site where excavation was prohibited.

Education Program

During the 2010 ICs inspections, the Navy conducted informal interviews with on-island personnel regarding the educational program and potential improvements. Interviews were conducted with residents and visitors. These interviews were intended to ensure that educational programs were functioning in accordance with the ICMP and applicable RODs.

Surveys were performed with 22 residents and visitors. Eighty-one percent of the residents, school children, and visitors (18 of 22) were aware of the ordnance awareness video. All (100 percent) residents, school children, and visitors were aware of land use restriction. Fourteen of 16 residents (88 percent) were aware of the fish consumption advisory. Fourteen of 16 (88 percent) residents were aware of the ordnance safety awareness video. All (100 percent) residents know to call 911 if they find suspected ordnance material. All (100 percent) residents were aware that land use restrictions apply to some areas on Adak. Thirteen of 16 (81 percent) residents were aware that digging on Adak requires Navy approval. All (100 percent) residents and visitors were aware that entry onto Navy-retained property (Parcel 4) is prohibited. Twelve of 16 (75 percent) residents were aware of the Navy outreach Web site and toll-free telephone number. All (100 percent) residents and visitors were aware of the hiking maps detailing the land use restrictions and ordnance awareness. All (100 percent) residents were aware that there are areas on Adak that cannot be excavated at all. Twelve of 16 (75 percent) residents were aware that groundwater use in the downtown area is prohibited (U.S. Navy 2011b).

SA 86, Happy Valley Child Care Center

In August 2010 a site inspection was performed to support the 5-year review. A black 55-gallon drum was observed within the debris of the former buildings. The drum contained an unknown foul-smelling liquid. It is recommended that the landowner remove the drum and dispose of the contents in accordance with state and federal laws.

SWMU 4 South Davis Road Landfill

The ICs at SWMU 4 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

The ECs at SWMU 4 are listed in Table 4-1. At the time of inspection, the cover appeared to be intact and undisturbed. The deficiencies to the landfill liner on the north end of the lake shoreline noted in 2009 were repaired during the summer 2010 field season. It was noted that the northern swale had approximately 1 inch of ponded water and was overgrown with vegetation. It was therefore recommended that the vegetation be removed from this swale (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 4 as were documented by the annual inspection. Additionally, minor amounts of metal debris were evident along the Lake Andrew shoreline near the northern portion of the landfill.

SWMU 10, Old Baler Building

The ICs and ECs at SWMU 10 are listed in Table 4-1. During the inspection in August 2010, no change to the site was observed, compared to the 2009 inspection results. The site appeared to be used as a storage location for cement cinder blocks. No residential construction had occurred at the site. No indication of groundwater use or excavation activities was found. The ICs required at this location include soil excavation restrictions. However, no sign was present at the site. Therefore, placement of a soil excavation restriction sign at the site was recommended.

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 10 as were documented by the annual inspection, but also noted the presence of a few abandoned petroleum, oil, or lubricant drums. These are not Navy drums or issues. However, the observations were recorded as part of both the annual inspection and the 5-year review inspection.

SWMU 11, Palisades Landfill

The ICs at SWMU 11 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

The ECs at SWMU 11 are listed in Table 4-1. At the time of the inspection, the cover appeared to be intact, undisturbed, and heavily vegetated. The deficiencies to the swale liner, sinkhole, and signs noted during the 2008 and 2009 inspections were repaired during the summer 2010 field season. Two minor deficiencies were noted in 2010. A small area of metal debris north of the repaired sinkhole was noted during the inspection. A small pond is still present in the north-central portion of the landfill within the ravine, but does not appear to be affecting the landfill cap integrity. This ponding has been noted in previous years. Both of these minor deficiencies will be monitored during subsequent inspections (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 11 as were documented by the annual inspection.

SWMU 13, Metals Landfill

The ICs at SWMU 13 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. The site did not appear to be in use. No residential construction had occurred at the site. There was no indication that groundwater is being used at the site. There was no indication of excavation activity at the site. Signs were in good condition. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

The ECs at SWMU 13 are listed in Table 4-1. All of the existing deficiencies identified during the 2008 and 2009 inspections were addressed. The drainage swale liners were all repaired and regraveled. Swale #2 was extended for better drainage. Metal debris eroding out of the armored shoreline was removed. The areas of erosion along the rock armor wall were repaired, reseeded, and fertilized. Most nonvegetated areas were reseeded and fertilized, with new grass appearing on the landfill cap. The large quantity of metal debris along the northern shoreline noted during the 2008 and 2009 inspections was again observed in 2010. However, this debris lies outside of the landfill boundaries and was not considered to be associated with the Metals Landfill. Some areas of the landfill remain sparsely vegetated, exposing soil. During the time of inspection, areas had recently been reseeded and grass was beginning to grow. These areas will continue to be monitored (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 13 as were documented by the annual inspection. However, it appeared to the 5-year review inspection team that the debris that has been interpreted as lying beyond the Metals Landfill boundary does belong within the boundaries of Metals Landfill. It is recommended that this debris be removed and the documented boundaries of the landfill be extended to cover this area.

SWMU 14, Old Pesticide Disposal Area

The ICs and ECs at SWMU 14 are listed in Table 4-1. During the inspection in August 2010, no change to the site was observed, compared to the 2009 inspection results. The site did not appear to be in use. No residential construction had occurred at the site. No indication that groundwater was being used or of excavation activity was found at the site. The ICs required at this location include soil excavation restriction. However, no sign was present at the site. Therefore, placement of a soil excavation restriction sign at the site was recommended.

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 14 as were documented by the annual inspection, but also noted the presence wood and plastic debris scattered at the site.

SWMU 15, Future Jobs/Defense Reutilization Marketing Office

The ICs and ECs at SWMU 15 are listed in Table 4-1. During the September 2010 inspection, no indication of groundwater use or of excavation activity was found, and no residential construction had occurred at the site. The site is used for commercial purposes, including fishing equipment storage, which is appropriate under the ICMP. The ICs required at this location include soil excavation restriction, and a new excavation restriction sign has been installed on the east perimeter of the site, which was a deficiency noted in previous IC inspections (U.S. Navy 2011b).

During the 2010 inspection, the northwest section of the site was being used to store approximately thirty to fifty 55-gallon drums of what appeared to be petroleum product. Drums were staged on pallets and directly on the ground. Many drums were leaking and large pools of black oil approximately 20 feet in diameter and up to approximately 6 inches deep were observed on the surface of the ground under the drums. Other items stored on the site included cylinders of refrigerant Forane 22, numerous 5-gallon buckets containing unknown material, wood and metal debris, and fish-processing equipment. On the far southern portion of the site near well MW15-424, an AST was observed with approximately six to eight 55-gallon drums with oil-stained soil under them. The oil staining was observed in an adjacent drainage ditch. In addition, on the far northwest corner of the site, a water-main break had occurred, had created a sinkhole approximately 6 feet in diameter, and was observed to be flowing into the roadside ditch. The sinkhole had been filled with 55-gallon drums and debris in an apparent attempt to plug the hole (U.S. Navy 2011b).

The poor housekeeping practices associated with the on-site drum storage, underlying contaminated soil, and water-main sinkhole with debris have impacted site soils and may be impacting underlying groundwater. It is recommended that the site owners be requested to remove the drums, pooled oil, and stained soil; remove the debris in the sinkhole; address the AST; and improve site housekeeping practices. It is further recommended that the City be contacted and asked to repair the water-main break and repair the sinkhole (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 15 as were documented by the annual inspection. ADEC representatives were on site during the inspection and documented the conditions.

SWMU 17, Power Plant No. 3

The ICs and ECs at SWMU 17 are listed in Table 4-1. The site is currently being used as the active power plant for the City. During the 2007 through 2009 inspections, petroleum staining was observed beneath the waste oil tank located on the east side of the building, and ADEC requested that the City address this issue. During the August 2010 inspection, the waste-oil tank observed in 2009 had been removed, but the oil-stained soil under the tank was still present, although it had been mostly covered by several inches of clean dirt. Additionally, approximately 150 crushed 55-gallon drums were observed to be located on pallets on the northeast corner of the building next to and inside the large fuel tank secondary containment. Heavily stained oily soil was observed under the drums, which are located approximately 100 feet upgradient of well PP-05. Additionally, two large transformers were observed within the secondary containment. One transformer (approximately 80 gallons) was observed to have a “No PCBs” sticker. The second transformer, approximately 50 gallons, had the letters “BAD” stenciled on it (U.S. Navy 2011b).

No other changes to the site were observed, compared to the 2009 inspection results. No residential construction had occurred at the site. There was no indication that groundwater was being used, and no indication of excavation activity was found. Excavation restriction signs were clearly visible. Poor housekeeping practices persist at this site and may be impacting site soils and underlying groundwater. It is recommended that the crushed drums and transformers be properly disposed of and the oil-stained soil be excavated from under the drums and former AST location on the east side of the building. It is further recommended that the power plant operator be notified to improve housekeeping and waste management practices (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 17 as were documented by the annual inspection. The inspection team noted that oil droplets were on the building and foundation next to the former AST and that vegetation next to the tank was stressed, indicating a possible breach in the tank. Approximately eight drums of oily soil were observed south of the former AST location. These drums were poorly maintained, and one had a hole in it, spilling some of the contents to the ground. The inspection team believes this soil was removed from below the former AST in an attempt to clean up a spill. Sandy sludge, similar to the contents of the eight drums was noted on the road next to the former AST. Further south of the eight drums, an AST was observed with a spill-containment vessel for a discharge valve filled with oil/oily water and a drum of unknown hazardous material in a yellow poly drum. Below the power plant near a Quonset hut, several drums were found on their sides. One contained oily water, and minor staining was observed next to the drum. Near well HC-3, excavation or grading had occurred, although no excavation request had been made. This area is hydraulically downgradient of the power plant and may indicate a release of oil or oily water had occurred. Lastly, a product-recovery system with a tank is present near the Quonset hut. It is recommended the Navy investigate dismantling the system. ADEC representatives were on site during the inspection and documented the conditions.

SWMUs 18/19, White Alice Landfill

The ICs at SWMUs 18/19 are listed in Table 4-1. During the inspection in September 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

The ECs at SWMUs 18/19 are listed in Table 4-1. The landfill cap appeared to be intact, undisturbed, and well vegetated, except at two sparsely vegetated areas. Findings and recommendations listed in the 2008 and 2009 IC inspection reports had been addressed by the time of the 2010 inspection and included repair of all perimeter fencing and repair and reseeding of all eroded areas. The reseeded areas were observed to be sprouting new vegetation and will continue to be monitored as vegetation is established (U.S. Navy 2011b).

During the 2010 inspection, several new concerns were noted. The swale located on the northeast corner is clogged with vegetation and was observed to have standing water. Ponding was observed outside and adjacent to the northern landfill perimeter fence and receives surface water from the northeast swale and roadside ditch. This pond may be contributing to the erosion of the areas on the northern portion of the landfill that were recently repaired. A sparsely vegetated area approximately 75 by 50 feet was observed on the northern portion of the landfill near where reseeding was performed and downgradient from the pond described above. A second 50- by 100-foot sparsely vegetated area was observed near the old building foundation on the south inside the fence. One large eroded area outside of the southwestern corner of the landfill has been present for a number of years and appears to be stable. It is currently not affecting landfill cap integrity, but will continue to be monitored for stability and possible encroachment into the landfill. To address these deficiencies, it was recommended that the two bare areas be reseeded and fertilized, vegetation removed from the northeastern swale, and the surface water pathway be rerouted outside the northern landfill boundary so that water does not pond (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMUs 18/19 as were documented by the annual inspection.

SWMU 20, White Alice/Trout Creek Disposal Area

The ICs at SWMU 20 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

The ECs at SWMU 20 are listed in Table 4-1. The EC repairs recommended in 2008 and 2009 were completed during the 2010 field season. The repairs included stabilizing, filling, grading, and seeding an eroded cliff face, removal of debris, and sign placement (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 20 as were documented by the annual inspection.

SWMU 24, Hazardous Waste Storage Facility

The ICs and ECs at SWMU 24 are listed in Table 4-1. During the inspection in September 2010, there was no indication of a change in land use in this area. The site did not appear to be in use, and no residential construction had occurred at the site. There was no indication that groundwater is being used at the site nor of excavation activities (U.S. Navy 2011b).

The current land owner uses the site for an island metal debris staging area. During the August 2010 inspection, wastes observed on site and at the recycling center in general included scrap metal debris, wood debris, numerous dilapidated vehicles, appliances (including refrigerators), various-sized tanks, several hundred crushed and whole 55-gallon drums with underlying stained soil, approximately seventy-five 5-gallon poly and metal containers with unknown liquids and underlying stained soil, approximately fifteen 50-gallon transformers with oil leaking out of some and onto the ground, car batteries, a large pile of tires, computers, and possible asbestos-containing materials (lagging, asbestos concrete) (U.S. Navy 2011b).

There is no restricted access or soil barrier at the site. An excavation restriction sign to the northwest of the site boundary along Public Works Road was present. Due to the conditions observed on site, there is a concern that contaminants associated with on-site wastes or materials are a threat to residents and are potentially impacting site soils and underlying groundwater. It is therefore recommended that the site owners, ADEC, and EPA be notified of the site conditions and that appropriate investigation and cleanup of the site be requested to be performed (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 24 as were documented by the annual inspection. ADEC representatives were on site during the inspection and documented the conditions.

SWMU 25, Roberts Landfill

The ICs at SWMU 25 are listed in Table 4-1. During the inspection in September 2010, there was no indication of a change in land use in this area. The site did not appear to be in use and no residential construction had occurred at the site. There was no indication that groundwater is being used at the site, nor of excavation activity. Therefore, ICs appeared to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

The ECs at SWMU 25 are listed in Table 4-1. During the inspection, it was noted that repairs had been performed during the 2010 field season on the perimeter fence, and new gates had been installed on the north and east entrances as recommended in 2009. Additionally, areas of erosion and sinkholes noted during the 2008 and 2009 inspections were repaired with jute mat and reseeded. Bulldozer tracks made during the noted repairs were reseeded/fertilized and will continue to be monitored for vegetative growth. Three small eroded areas were observed just outside the western fence line and approximately 30 feet west of the landfill cap. These areas were also observed during the 2009 inspection, but do not appear to be affecting cap integrity and will continue to be monitored for possible future encroachment onto the landfill cap. One new eroded area was observed in the south-central portion of the landfill that is approximately 100 feet in diameter. Sparsely vegetated areas noted during the 2009 inspection still remain across the landfill cap. Most notably, a large sparsely vegetated area approximately 400 by 200 yards is located in the central portion of the cap near the main gate. Wooden and metal debris associated with a collapsed building is located on the northeast side of the landfill; however, this is not located on the landfill cap. The pond located on the southern portion of the landfill near the gates that was observed during the 2009 inspection is still present. A groundwater seep was observed on the Mitt Lake access road downgradient from the landfill and uphill from sampling location RLSW05. The seep has bright-orange precipitate, is approximately 3 by 2 feet in size, and flows at approximately 2 liters per minute. It is flowing eastward into a heavily vegetated area that is upgradient approximately 100 feet from Mitt Creek. A surface water sample was collected from the seep as part of the long-term monitoring activities and analyzed for total and dissolved priority pollutant metals plus aluminum and WQPs. Analytical result showed that no result exceeded endpoint criteria or Alaska Water Quality Standards (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 25 as were documented by the annual inspection.

SWMU 29, Finger Bay Landfill

The ICs at SWMU 29 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

The ECs at SWMU 29 are listed in Table 4-1. The 2010 inspection noted that repairs to the landfill were made based on the 2008 and 2009 IC inspections results and included removal of metal debris and filling, regarding, reseeding, and fertilizing a small square ponded area. The 2010 inspection also noted that the large 30- by 10-foot pond noted in 2009 on the east side of the site high point is still present, but appears to be outside the landfill cap and not affecting landfill integrity. A small pond approximately 15 feet in diameter was observed on the northwest portion of the landfill and was observed to contain wood debris. Since landfill boundaries are unclear, it is uncertain if this pond is on the landfill cap. This pond does not appear to be affecting the landfill cap. The nonvegetated areas observed during the 2008 and 2009 inspections are presumably where bedrock outcrops exist near the landfill cap. They do not appear to be affecting the integrity of the landfill cap, but these areas of bare soil will be monitored annually. A seep was observed at the former location of the square pond that was reported in 2009. This area was regraded and filled with gravel approximately 50 feet in diameter since last year's inspection. The seep was orange in color and flowing out of the gravel toward the south at less than 1 liter per minute. One small (approximately 1 by 4 feet) piece of metal debris was observed in the central portion that has been noted in previous investigations. It does not appear to be affecting the landfill cap (U.S. Navy 2011b).

In August 2010 a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 29 as were documented by the annual inspection.

SWMU 55, Public Works Transportation Department Waste Storage Area

The ICs and ECs at SWMU 55 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. The site is currently used as a storage area for dilapidated vehicles, machinery, tires, and miscellaneous debris. Numerous areas of oil-stained soil were observed, and a car battery was noted near a monitoring well. One of the tires contained antifreeze. Additionally, the shed located on the site was observed to have a large quantity of a variety of presumably virgin petroleum-type products in 5-, 35- and 55-gallon containers. Many of these containers were stacked on top of each other, leaning, and did not appear to be stable (U.S. Navy 2011b).

There is no restricted access or soil barrier at the site. An excavation restriction sign to the northwest of the site boundary along Public Works Road was present. Because of the conditions observed on site, there is a concern that contaminants associated with on-site wastes or materials are a threat to residents and are potentially impacting site soils and underlying groundwater. It is therefore recommended that the site owners, ADEC, and EPA be notified of the site conditions and that appropriate investigation and cleanup of the site be requested to be performed (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 55 as were documented by the annual inspection. ADEC representatives were on site during the inspection and documented the conditions.

SWMU 58/SA 73, Heating Plant 6

The ICs and ECs at SWMU 58/SA73 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. Three new “No Excavation” signs were installed at the site during the 2010 field season. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SWMU 58/SA73 as were documented by the annual inspection. The inspection team noted a 2½-foot-deep excavation in a berm west of the former UST locations. It is assumed this was from copper-salvaging operations. Additionally, stripped and abandoned transformers and switch banks were noted just north of the site. Oily staining was observed on and next to the equipment. Stripped cables were discovered next to Building 10348, and oily staining under the cables was observed. It is recommended that the landowner collect soil samples and analyze for PCBs at both the transformer/switch-bank locations and under the cables. ADEC representatives were on site during the inspection and documented the conditions.

SWMU 61, Tank Farm B

The ICs and ECs at SWMU 61 are listed in Table 4-1. During the inspection in August 2010, no change to the site was observed, compared to the 2009 inspection results. No indication of a change in land use in this area was found, and no residential construction had occurred at the site. No indication of groundwater use or excavation activity was found, and the excavation restriction sign was clearly visible (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. Accompanied by ADEC, an existing 420,000-gallon field-constructed tank (10262-A1) that last contained mogas was inspected.

SA 76, Old Line Shed Building

The ICs and ECs at SA 76 are listed in Table 4-1. During the inspection in August 2010, one dumpster was observed on site. No residential construction had occurred at the site. No indication of groundwater use or excavation activity was found. No change to the site was observed, compared to the 2009 inspection results. Usage of the site remains within the IC requirements of commercial/industrial. The ICs required at this location include soil excavation restriction. However, no sign was present at the site. Therefore, placement of a soil excavation restriction sign at the site was recommended.

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SA 76 as were documented by the annual inspection.

SA 78, Old Transportation Building

The ICs and ECs for SA 78 are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area, and no residential construction had occurred at the site. There was no evidence of excavation. Four new “No Excavation” signs were installed at the site during the 2010 field season (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SA 78 as were documented by the annual inspection.

SA 88, P-70 Energy Generator

The ICs and ECs for SA 88 are listed in Table 4-1. During the inspection in September 2009, there was no indication of a change in land use in this area, and no residential construction had occurred at the site. There was no evidence of excavation. Two new “No Excavation” signs were installed at the site during the 2010 field season, and two damaged monitoring well casings noted last year have been removed and have been decommissioned per ADEC requirements (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at SA 88 as were documented by the annual inspection.

ASR-8

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted lead acid and nickel cadmium batteries within the building. Since this building was a secure facility during hazardous material inspections, they would not have been noted by the inspector. It is recommended that the Navy remove these batteries from the building and check for emergency lighting fixtures for batteries.

Finger Bay Quonset Hut, UST FBHQ-1

The ICs and ECs at the Finger Bay Quonset Hut are listed in Table 4-1. During the inspection in August 2010, no change to the site was observed, compared to the 2009 inspection results. No indication of a change in land use in this area was found, and no residential construction had occurred at the site. No indication of groundwater use or excavation activity was found, and the excavation restriction sign was clearly visible. The sign was observed to have bullet holes in it, but it was still completely legible. However, the sign is not located where the building was. It is therefore recommended that an additional excavation restriction sign be placed closer to the Quonset hut's former location (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at the Finger Bay Quonset Hut as were documented by the annual inspection. Additionally, the inspectors noted the backfill from the limited soil removal requires revegetation.

MAUW Compound, UST 24000-A

The ICs and ECs at the MAUW Compound UST 24000-A are listed in Table 4-1. During the inspection in August 2010, no indication that groundwater was being used was found at this site. No residential construction has occurred at the site. No indication of excavation activity was found, and excavation restriction signs were clearly visible. A land use change was noted: a rental car storage and maintenance facility has been established in the farthest west bunker (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at the MAUW Compound as were documented by the annual inspection. Because there is vehicle maintenance being performed, there is the possibility of fluid leaks from activities at the site. Any such leaks would not be a Navy issue.

Mount Moffett Power Plant 5, USTs 10574 through 10577

The ICs and ECs at the Mount Moffett Power Plant 5 are listed in Table 4-1. During the inspection in August 2010, no change to the site was observed, compared to the 2009 inspection results. No indication of a change in land use in this area was found, and no residential construction had occurred at the site. No indication of groundwater use or excavation activity was found, and the excavation restriction sign was clearly visible (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at the site as were documented by the annual inspection. However, the inspectors noted several leaking transformers on the northwest corner of Building 10359 near the site. It is recommended that the landowner collect soil samples and analyze for PCBs at both the transformer/switch-bank locations and under the cables. ADEC representatives were on site during the inspection and documented the conditions.

NMCB Building Area, T-1416 Expanded Area

The ICs and ECs at the NMCB Building Area, T-1416 Expanded Area are listed in Table 4-1. During the inspection in August 2010, no indication that groundwater was being used was found at this site. No residential construction has occurred at the site. No indication of excavation activity was found, and excavation restriction signs were clearly visible. No indication of a change in land use in this area was found, compared to last year. Compared to last year's inspection, some of the same findings were observed, including trash, rock debris, and old equipment being stored on the south side and between the two buildings. Additionally, five poly drums were observed to be located in the same place on the south side of the west building. An approximately 5-foot-diameter area of oil-stained soil was observed under the drums. A portable, 150-gallon gasoline tank was located on the west side of the east building in a lined, bermed area which is in poor condition. The two tanker trucks in front of the east building noted last year have been removed, as well as the three 55-gallon drums of motor oil. One car battery remains on the northeast corner of the east building. Because these poor housekeeping practices may be contributing to groundwater contamination, it is recommended that the owners be notified to remove the on-site wastes, address the areas of actual or potential spills, and improve housekeeping practices (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at the NMCB Building Area, T-1416 Expanded Area as were documented by the annual inspection.

Old Fuel Truck Stop

In August 2010, a site inspection was performed at SA 85, New Baler Building to support the 5-year review. This site is next to the Old Fuel Truck Stop that was investigated prior to the ROD and is listed as an NFA site. Located just east of SA 85, the Old Fuel Truck Stop site is used to burn municipal garbage. It is unknown if a fuel source is used to light the garbage. When the garbage is burned, black smoke is highly visible. The contents of the garbage are unknown. However, there is no recycling program on Adak, and therefore, what may normally be recycled elsewhere (notably plastics) is burned here. It is recommended that the Navy request that municipal garbage burning is performed on a concrete or asphalt surface away from one of the Navy's former investigation sites.

South of Runway 18-36 Area

The ICs and ECs at South of Runway 18-36 Area are listed in Table 4-1. During the inspection in August 2010, there was no indication of a change in land use in this area. No residential construction had occurred at the site. There was no indication of excavation activity. No indication of tampering with the product-recovery system was found. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at South of Runway 18-36 Area as were documented by the annual inspection. Additionally the inspectors noted an unused product-recovery system. It is recommended the Navy investigate dismantling the system.

Sweeper Cove

The ICs at Sweeper Cove are listed in Table 4-1. Educational surveys were conducted to evaluate the effectiveness of the fish advisory fact sheet that was distributed to every resident in 2010. The survey asked if the participant was aware that fish advisories were in existence. Fourteen of 16 residents were aware of the fish advisory. Based on this, the IC fact sheet appears to be effective in distributing the fish advisory (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspectors noted that significant dredging of sediment was being performed to deepen the small boat harbor.

Tanker Shed

The ICs and ECs at Tanker Shed are listed in Table 4-1. During the inspection in August 2010, no change to the site was observed, compared to the 2009 inspection results. An abandoned remediation system was observed on site that contains two 55-gallon drums and hoses in a poly container. During the inspection, the site appeared not to be in use. No residential construction had occurred at the site, and excavation restriction signs were clearly visible. No indication of groundwater use or excavation activity was found at the site. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater. However, it is recommended that the Navy consider removing the abandoned remediation system from the site (U.S. Navy 2011b).

In August 2010, a site inspection was performed to support the 5-year review. The inspection noted similar site conditions at Tanker Shed as were documented by the annual inspection.

OU B-1 and OU B-2 Ordnance Areas

The perimeter fencing and access gates of SA 93 WWII Mortar Impact Area were inspected. The 2010 inspection results included the following:

- All areas of damaged fence noted in the 2008 and 2009 IC inspection reports have been repaired.

- All missing signage along the fence lines previously noted have been replaced.
- A new gate and signs were installed on the northeast corner of SA 93.
- The eroded/sinkhole area at the eastern SA 93 perimeter fence-line road and the SA 82 road intersection had been repaired.

The southern perimeter fencing and southern gate of SWMU 1 Lake Andrew Waste Ordnance Demolition Range was inspected. The 2010 inspection results included the following:

- The gate along the southeast entrance to SWMU 1 was inspected and found to be locked and in good condition.
- Southern perimeter fencing near the gate appears to be intact.
- The two signs on both sides of the road at the south entrance road appeared to be in good condition.
- One new sign was installed on the road at the southern tip of Lake Andrew (Lake Jean) entrance a few days after the 2010 inspection at the direction of the Navy Technical Representative.
- The gate along the southwestern entrance to SA 93 at the Lake Andrew recreational cabin was inspected and found to be locked and in good condition. There is no sign present at the gate, and it is recommended that one be installed at the gate location.

During the inspection of Sites C3-01A through C3-01F and a portion of the western shore of Heart Lake, no evidence of landslides, sloughing, or obvious erosion was observed. At site C3-01A, the stream flowing into Heart Lake flows through the site. Additionally, an access road and hiking trails pass through the site and evidence of recreational use (e.g., fishing line and foot prints on the lake shore) was observed in this area. Access to this area is not restricted. An area of tall Rommel stakes was observed to the right (south) approximately 50 feet south of where the access road intersects the lake shoreline. Additionally, ATV tracks were observed adjacent to sites C3-01B, C3-01D, and C3-01F, but not on them. No other evidence of erosion, debris, structures, or usage was observed at sites C3-01A through C3-01F. Because there is evidence of recreation use near the remediated MEC area of C3-01A, the 2010 inspection report recommended that a general munitions warning sign be placed on the access road at the entrance of the site.

During the August 2010 inspections of Finger Bay sites FB-01 and FB-02, no evidence of landslides, sloughing, or obvious erosion was observed. The stream flowing into Finger Bay flows through site FB-02. Additionally, an access road and hiking trails with ATV tracks appear to pass through site FB-02, and evidence of recreational use (e.g., hiking) was observed in this area. Two hikers were observed on the ridge above and behind FB-02. No other evidence of erosion, debris, structures, or usage was observed at the sites. Because there is recreation use near and possibly in these sites, it is recommended that a MEC warning sign be placed at the trailhead at the end of Finger Bay Cove road.

The inspections of Sweeper Cove Site HH-01 and Husky Pass Sites ML-01A, ML-01B, and ML-01C found no evidence of landslides, sloughing, obvious erosion, structures, debris, or use of any kind of the sites. ICs appear to be functioning properly.

The dispute resolution decision regarding OU B-1 sites signed in February 2003 by EPA, ADEC, and the Navy states, "Navy will use the attached checklist (Attachment 1) to carry out the required CERCLA five-year reviews for Adak Island for OU B-1 sites (including C3-01A and FB-03) to ensure that the remedial actions taken remain protective of human health and the environment." Sites with slopes greater than 30 degrees and one 2004 field season site that were readily accessible were inspected during this 5-year review period. The inspection of this subset of the OU B-1 sites met the expectations of ADEC and EPA, as expressed during the kickoff meeting with the agencies prior to the start of the 5-year review, and met the requirements of the ICMP. The OU B-1 sites with slopes exceeding 30 degrees for which inspections are required by the ICMP every 5 years are C3-01A, C3-01B, C3-01C, C3-01D, C3-01E, C3-01F, FB-01, FB-03, HH-01, ML-01A, ML-01B, and ML-01C.

In January 2010, TAC reported finding 36 WWII-era blasting caps during cleanup of a fuel spill. The find was reported to EOD, who responded and disposed of the blasting caps by detonation in February 2010.

In July 2010, a DMM find was reported, possibly a 155-mm round without a fuze. The item was located outside of site MM-10G, but within Parcel 4. The find was forwarded to the EOD team for disposal in August 2010.

6.6 RESULTS OF INTERVIEWS

Interviews were conducted with persons familiar with the CERCLA and SAERA actions at Adak. Interviewees were selected from the Navy (NAVFAC Northwest), current property owners, regulatory and advisory agencies, and community members. Interview instructions and questions were sent to potential interviewees via hard-copy mail or e-mail. Responses to questions were returned either in writing, or through telephone interviews. Not all those invited to comment chose to do so. Interview responses are documented in Appendix B. Highlights of the interview responses are summarized in the following sections.

6.6.1 Navy Personnel

The Navy respondents reported an overall intensification of Navy efforts to educate the public and strengthen ICs and EC and noted that public involvement and buy-in was critical to successful ICs. See Section 6.5 for a discussion of updates to the ICs.

The Navy respondents were aware of a few community concerns regarding remedy implementation and overall protectiveness. One respondent noted a community concern regarding wheel-rut erosion on Mount Moffett. A community concern regarding community outreach was reported to have been addressed to the satisfaction of the RAB community co-chair. In one instance, the community expressed confusion in the response and notification requirements for an incidental munitions find. This issue was addressed by the Navy through a revision to the notification process. Regular operation, maintenance, and monitoring were reported as ongoing by the Navy respondents, and no unexpected difficulty was reported.

The Navy respondents reported that some instances of unauthorized access, unauthorized excavation, and vandalism to fences occurred during this 5-year review period. Releases of petroleum products or poor housekeeping related to petroleum products by entities other than the Navy were noted in the interview responses.

6.6.2 Landowners

The landowners providing interview responses included representatives from ADOT&PF, the City of Adak, and TAC. Respondents reported feeling either poorly informed about the environmental cleanup activities on Adak, or suggested that communications could be improved. The landowners reported a perception that cleanup activities were moving slowly, with an overall decrease in activity. None of the landowners reported any change in site conditions that could impact the protectiveness of the remedies. No landowner reported any vandalism, trespassing, or other incident that could impact the protectiveness of the remedy, and no landowner was aware of any community concerns regarding remedy implementation.

TAC expressed a concern that the IC components of the remedy limit redevelopment activity and requested more involvement in remedy decisions.

6.6.3 Agency Personnel

The agencies providing responses included ADEC and EPA. Responses from these agencies are summarized in the separate subsections that follow.

ADEC Interview Responses

The ADEC respondents reported feeling generally well informed overall regarding environmental actions on Adak. However, one respondent noted a lack of coordination regarding quality control issues during the 2009 field season and stated that this coordination issue has continued to persist through ongoing OU B-1 and OU B-2 activities. ADEC stated that better coordination was needed.

ADEC noted no change to land use, but expressed a concern that the increasing levels of DRO in groundwater indicate that monitored natural attenuation is not a sufficient remedy. ADEC also acknowledged ongoing concerns with the adequacy of the IC program, though it was also noted that the program had recently been greatly improved by the Navy.

With regard to changes in applicable or relevant and appropriate requirements (ARARs) and new scientific findings potentially calling into question remedy protectiveness, ADEC reported that 18 AAC 75 was amended as of January 2009.

ADEC indicated that there are environmental housekeeping issues (leaking drums, oil stains, etc.) at several sites, including SWMUs 15, 17, and 55. The Navy has documented this in the annual ICs inspection reports, and ADEC and EPA are working with the landowner to address these issues.

ADEC reported no complaint or violation requiring their response.

ADEC reported the discovery of a case of blasting caps that required EOD response. ADEC noted that it took several weeks for the response, but that a more timely response was likely during any future incidents, based on the resolution to this incident. ADEC also noted a transformer oil release and destruction of signs and monitoring wells caused by a contractor hired by the property owner to recover metal. The Navy contacted the property owner and this salvage operation ceased.

ADEC noted a community concern regarding clearing the area around Andrew Lake so that residents can access the lake. ADEC noted that the Navy addressed the community concern of large-diameter borings in the downtown area.

Regarding suggestions for monitoring of the remedies, ADEC noted that a team has been created to optimize the monitoring of petroleum sites.

EPA Interview Responses

The EPA respondent reported feeling well informed overall regarding environmental actions on Adak. With regard to changed site conditions that could impact remedy protectiveness, EPA noted a concern regarding the property owners' commitment to LUCs. With regard to changes in ARARs and new scientific findings potentially calling into question remedy protectiveness, EPA noted that the maximum contaminant level (MCL) for arsenic in drinking water is 10.0 µg/L as of January 23, 2006. Changes to ARARs are addressed in this 5-year review in Section 7.2.

EPA noted that ADEC and the U.S. Coast Guard had responded to a large petroleum spill that was not the responsibility of the Navy. EPA also noted that work implemented at OU B-1 was not done pursuant to the approved work plans, which may impact assessment of the functionality of the remedy. EPA also noted in the response to this question that the landowners have not consistently adhered to the LUCs.

EPA reported that the TAC representatives on the RAB have complained that the LUCs prevent usage of the land. EPA suggested that the Navy maintain vigilant oversight of LUC adherence.

Regarding suggestions for monitoring of the remedies, EPA suggested that there be an increase of real-time monitoring and an increased focus on preserving the institutional knowledge regarding monitoring procedures.

6.6.4 Community

Six community members provided interview responses. Respondents included representatives of the Alaska Maritime National Wildlife Refuge, which is managed by the USFWS, a Sierra Club volunteer, and several current and former citizens of Adak. All of the respondents reported feeling well informed about environmental cleanup activities on Adak. One respondent, however, made specific recommendations regarding presentation materials and content and methods of communication. This respondent stated the opinion that signs and occasional presentations were not enough for robust ICs. Another respondent noted that the maps available on the website don't show overlays of the OU B boundaries.

The USFWS reported entry into a closed area by scientists working under a permit that did not allow access to the area entered. The USFWS took steps to reduce the risk of repeat incidents. The USFWS expressed concerns regarding the adequacy of UXO cleanup as planned. USFWS also noted that remediation equipment is not always removed when a project is complete, and it should be.

Community members expressed a concern that more island services could be used as part of the cleanup and noted that "there is still fuel coming out of the ground." One community member expressed the opinion that the UXO remediation was "somewhat overdone."

Several respondents indicated that the remediation efforts to date have had positive results in the community and are generally appreciated.

Table 6-1
Concentration Trend Evaluation for Monitored Natural Attenuation Sites

								Mann-Kendall Trend			Sen's Slope			
Site	**Well ID**	**Target Analyte**	**Initial Monitored Concentration (µg/L)**	**Latest Result (µg/L)**	**Current Endpoint (µg/L)**	**Number of Sampling Periods**	**Latest Mann-Kendall Statistic**	**Trend at 80% C.I.**	**Trend at 95% C.I.**	**Stable**	**Median Slope**	**Statistically Significant Trend**	**Lower Limit**	**Upper Limit**
Former Power Plant, Building T-1451	01-118	DRO	7,080	7,100	1,500	10	-14	Decreasing	No trend	Yes	-400	No	-820	NC
	01-150	DRO	394	1,300	1,500	7	12	Increasing	No trend	No	NC	NC	NC	NC
	01-151	DRO	1,590	4,600	1,500	8	14	Increasing	No trend	No	NC	NC	NC	NC
GCI Compound, UST GCI-1	04-100	GRO	5,300	3,100	1,300	8	-9	Decreasing	No trend	No	-160	No	-367	214
	04-202	GRO	5,100	3,300	1,300	4	-2	No trend	No trend	Yes	NC	NC	NC	NC
	04-204	GRO	230	300	1,300	5	NC	NC	NC	No	NC	NC	NC	NC
	04-210	GRO	5,000	4,800	1,300	7	3	No trend	No trend	Yes	NC	NC	NC	NC
	04-213	GRO	3,800	3,300	1,300	5	-2	No trend	No trend	Yes	NC	NC	NC	NC
Housing Are (Arctic Acres)	03-416	DRO	3,450	1,300	1,500	3	NC	NC	NC	NC	NC	NC	NC	NC
	03-420	DRO	12,300	2,200	1,500	9	-23	Decreasing	Decreasing	No	-581	Yes	-1,100	-320
	03-421	DRO	81,300	3,800	1,500	4	-2	No trend	No trend	No	NC	NC	NC	NC
	03-422	DRO	90,600	120	1,500	5	NC	NC	NC	NC	NC	NC	NC	NC
	03-890	DRO	5,600	10,000	1,500	4	-4	Decreasing	No trend	No	NC	NC	NC	NC
	AA-02	DRO	455	98	1,500	2	NC	NC	NC	NC	NC	NC	NC	NC
	AA-06	DRO	250	48	1,500	2	NC	NC	NC	NC	NC	NC	NC	NC
ROICC Contractor's Area, UST ROICC-7	08-175	Benzene	1.1	0.15	5	10	NC	NC	NC	NC	NC	NC	NC	NC
	08-200	Benzene	390	310	5	10	-4	No trend	No trend	Stable	NC	NC	NC	NC
	08-202	Benzene	24	12	5	10	-28	Decreasing	Decreasing	NA	-0.8	Yes	-1.14	-0.64
Runway 5-23 Avgas Valve Pit	14-100	GRO	1,000	2,200	1,300	10	-1	No trend	No trend	Stable	NC	NC	NC	NC
	14-110	GRO	920	730	1,300	10	NC	NC	NC	NC	NC	NC	NC	NC
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	DRO	850	2,000	15,000	7	NC	NC	NC	NC	NC	NC	NC	NC
	12-145	GRO	4,500	4,100	13,000	7	NC	NC	NC	NC	NC	NC	NC	NC
	12-145	Benzene	160	6.4	50	7	NC	NC	NC	NC	NC	NC	NC	NC
	12-802	DRO	250 U	26 J	15,000	7	NC	NC	NC	NC	NC	NC	NC	NC
	12-802	GRO	18.9 UJ	100 U	13,000	7	NC	NC	NC	NC	NC	NC	NC	NC
	12-802	Benzene	0.5 U	0.5 U	50	7	NC	NC	NC	NC	NC	NC	NC	NC
	MW-116	DRO	77 J	28 J	15,000	7	NC	NC	NC	NC	NC	NC	NC	NC
	MW-116	GRO	12 J	NP	13,000	7	NC	NC	NC	NC	NC	NC	NC	NC
	MW-116	Benzene	1.0 U	NP	50	7	NC	NC	NC	NC	NC	NC	NC	NC
	MW-117	DRO	1,200	1,100	15,000	5	NC	NC	NC	NC	NC	NC	NC	NC
	MW-117	GRO	3,500	2,300	13,000	5	NC	NC	NC	NC	NC	NC	NC	NC
	MW-117	Benzene	29	3.3	50	5	NC	NC	NC	NC	NC	NC	NC	NC
SA 79, Main Road Pipeline, South End	MRP-MW8	DRO	2,790	2,700	1,500	10	2	No trend	No trend	Yes	NC	NC	NC	NC
	02-230	DRO	4,230	4,000	1,500	10	-1	No trend	No trend	Yes	NC	NC	NC	NC

Table 6-1 (Continued)
Concentration Trend Evaluation for Monitored Natural Attenuation Sites

Site	Well ID	Target Analyte	Initial Monitored Concentration (µg/L)	Latest Result (µg/L)	Current End point (µg/L)	Number of Sampling Periods	Latest Mann-Kendall Statistic	Mann-Kendall Trend			Sen's Slope			
								Trend at 80% C.I.	Trend at 95% C.I.	Stable	Median Slope	Statistically Significant Trend	Lower Limit	Upper Limit
SA 80, Steam Plant 4, USTs 27089 and 27090	04-158	DRO	7,310	13,000	1,500	2	NC	NC	NC	NC	NC	NC	NC	NC
	04-159	DRO	1,410	4,000	1,500	6	5	No trend	No trend	Yes	NC	NC	NC	NC
	04-173	DRO	2,560	3,200	1,500	2	NC	NC	NC	NC	NC	NC	NC	NC
	04-801	DRO	250	15 J	1,500	5	NC	NC	NC	NC	NC	NC	NC	NC
	SP4-3	DRO	3,400	5,700	1,500	7	-3	No trend	No trend	Yes	NC	NC	NC	NC
South of Runway 18-36 Area	02-231	DRO	1,200	7,100	15,000	11	NC	NC	NC	NC	NC	NC	NC	NC
	02-232	DRO	160	2,400	15,000	11	NC	NC	NC	NC	NC	NC	NC	NC
	AS-1	DRO	2,800	1,500	15,000	4	NC	NC	NC	NC	NC	NC	NC	NC
	E-208	DRO	270	49	15,000	10	NC	NC	NC	NC	NC	NC	NC	NC
	E-218	DRO	190	1,600	15,000	11	NC	NC	NC	NC	NC	NC	NC	NC
	RW-18/36-03	DRO	120	77	15,000	4	NC	NC	NC	NC	NC	NC	NC	NC
SWMU 14, Old Pesticide Storage and Disposal Area	01-153	DRO	540	430	1,500	10	-11	Decreasing	No trend	NA	-90	No	NC	NC
	01-153	GRO	1,700	100	1,300	10	-13	Decreasing	No trend	NA	-375	No	NC	NC
	01-153	PCE	27	6	5	8	-6	Decreasing	Decreasing	NA	-0.995	Yes	-2.8	-0.29
	MW14-5	DRO	3,800	1,900	1,500	8	NC	NC	NC	NC	NC	NC	NC	NC
	MW14-5	GRO	13,000	9,000	1,300	8	NC	NC	NC	NC	NC	NC	NC	NC
	MW14-5	Total Lead	83.6	14.4	15	10	-21	Decreasing	Decreasing	NA	-1.75	Yes	-2.87	-0.95
	MW14-5	Dissolved Lead	84.6	13.8	15	10	-21	Decreasing	Decreasing	NA	-1.67	Yes	-3.6	-0.74
SWMU 15, Future Jobs/DRMO	MW15-3	PCE	12.3	4.2	5	10	-15	Decreasing	No trend	NA	-0.59	No	NC	NC
SWMU 17, Power Plant No. 3	05-735	DRO	698	690	15,000	9	NC	NC	NC	NC	NC	NC	NC	NC
	05-735	PCE	10	1.3	5	10	NC	NC	NC	NC	NC	NC	NC	NC
	05-735	Cis-1,2-DCE	189	400	70	10	-5	No trend	No trend	Yes	NC	NC	NC	NC
	05-735	Vinyl chloride	4.18	4.3	2	10	-3	No trend	No trend	Yes	NC	NC	NC	NC
	HC-2	DRO	2,100	2,900	15,000	3	NC	NC	NC	NC	NC	NC	NC	NC
	HC-3	DRO	1,300	810	15,000	4	NC	NC	NC	NC	NC	NC	NC	NC
	PP-05	DRO	8,500	8,500	15,000	2	NC	NC	NC	NC	NC	NC	NC	NC
	R-1	DRO	3,730	1,300	15,000	8	NC	NC	NC	NC	NC	NC	NC	NC
	R-2	DRO	77	220	15,000	3	NC	NC	NC	NC	NC	NC	NC	NC
	R-5	DRO	1,900	1,800	15,000	4	NC	NC	NC	NC	NC	NC	NC	NC
	R-6	DRO	12,000	5,000	15,000	7	NC	NC	NC	NC	NC	NC	NC	NC
SWMU 55, Public Works Transportation Department Storage Tank	55-145	PCE	180	49	5	10	-41	Decreasing	Decreasing	NA	-12.75	Yes	-18.2	-9
SWMU 58 and SA 73, Heating Plant 6	12-105	DRO	7,800	6,400	15,000	2	NC	NC	NC	NC	NC	NC	NC	NC
	12-114	DRO	9,400	4,300	15,000	5	NC	NC	NC	NC	NC	NC	NC	NC
	12-121	DRO	19,000	1,300	15,000	5	NC	NC	NC	NC	NC	NC	NC	NC
	12-203	DRO	51,000	17,000	15,000	2	NC	NC	NC	NC	NC	NC	NC	NC

Table 6-1 (Continued)
Concentration Trend Evaluation for Monitored Natural Attenuation Sites

Site	Well ID	Target Analyte	Initial Monitored Concentration (µg/L)	Latest Result (µg/L)	Current End point (µg/L)	Number of Sampling Periods	Latest Mann-Kendall Statistic	Mann-Kendall Trend			Sen's Slope			
								Trend at 80% C.I.	Trend at 95% C.I.	Stable	Median Slope	Statistically Significant Trend	Lower Limit	Upper Limit
SWMU 60, Tank Farm A	LC-5A	DRO	1,100	860	1,500	9	NC	NC	NC	NC	NC	NC	NC	NC
	MW-E006	Benzene	19	8.1	5	8	-3	No trend	No trend	Yes	NC	NC	NC	NC
SWMU 61, Tank Farm B	14-113	GRO	2,000	3,800	1,300	8	-3	No trend	No trend	Yes	NC	NC	NC	NC
	14-113	Benzene	34	12	5	8	-24	Decreasing	Decreasing	NA	-3.35	Yes	-4.88	-2.14
	14-210	GRO	5,900	4,200	1,300	10	9	No trend	No trend	Yes	NC	NC	NC	NC
	TFB-MW4B	GRO	36,500	46,000	1,300	10	19	Increasing	No trend	NA	NC	NC	NC	NC
	TFB-MW4B	Benzene	54	30	5	10	-30	Decreasing	Decreasing	NA	-2.71	Yes	-4.6	-0.17
	TFB-MW4B	Toluene	3,270	4,600	1,000	10	11	Increasing	No trend	NA	NC	NC	NC	NC
	TFB-MW4B	Ethyl-benzene	1,100	2,100	700	10	17	Increasing	No trend	NA	NC	NC	NC	NC
	TFB-MW4B	Total xylenes	7,850	15,700	10,000	10	27	Increasing	Increasing	NA	NC	NC	NC	NC
SWMU 62, New Housing Fuel Leak, Sandy Cove	03-104	DRO	9,000	5,200	1,500	4	0	No trend	No trend	Yes	NC	NC	NC	NC
	03-155	DRO	750	2,500	1,500	8	14	Increasing	No trend	NA	NC	NC	NC	NC
	03-778	DRO	1,800	2,400	1,500	5	0	No trend	No trend	Yes	NC	NC	NC	NC
	HMW-146-3	DRO	1,900	1,700	1,500	5	0	No trend	No trend	Yes	NC	NC	NC	NC
	MRP-MW2	GRO	3,100	2,300	1,300	4	-2	No trend	No trend	Yes	NC	NC	NC	NC
	MRP-MW2	Benzene	39	43	5	4	2	No trend	No trend	Yes	NC	NC	NC	NC
	MW-107-1	DRO	3,400	4,400	1,500	5	5	No trend	No trend	Yes	NC	NC	NC	NC
	MW-134-11	DRO	7,450	4,900	1,500	7	-6	No trend	No trend	Yes	NC	NC	NC	NC
	MW-146-1	DRO	12,000	13,000	1,500	4	1	No trend	No trend	Yes	NC	NC	NC	NC
	MW-187-1	DRO	3,900	4,400	1,500	5	0	No trend	No trend	NA	NC	NC	NC	NC
	MW-187-1	Benzene	18	3.6	5	5	-8	Decreasing	Decreasing	NA	-3.47	Yes	-6	-1.5
SWMU 62, New Housing Fuel Leak, Eagle Bay	03-502	GRO	8,200	1,500	1,300	5	-10	Decreasing	Decreasing	NA	-1,610	Yes	-1,900	-1,450
	AMW-704	DRO	2,500	3,800	1,500	5	2	No trend	No trend	Yes	NC	NC	NC	NC
	RW-303-13	DRO	3,400	2,100	1,500	4	-2	No trend	No trend	Yes	NC	NC	NC	NC
	RW-303-16	DRO	10,000	8,600	1,500	5	0	No trend	No trend	Yes	NC	NC	NC	NC
Tanker Shed, UST 42494	04-175	DRO	16,900	6,100	1,500	6	-5	No trend	No trend	Yes	NC	NC	NC	NC
	04-290	DRO	9,220	4,300	1,500	6	2	No trend	No trend	Yes	NC	NC	NC	NC
	04-306	DRO	2,500	4,300	1,500	4	0	No trend	No trend	Yes	NC	NC	NC	NC
	04-306	GRO	1,460	1,500	1,300	4	0	No trend	No trend	Yes	NC	NC	NC	NC

Notes:
C.I. - confidence interval
DCE - dichloroethene
DRO - diesel-range organics
GRO - gasoline-range organics
J - estimated concentration
µg/L - microgram per liter
NC - evaluation not conducted
PCE - tetrachloroethene
U - not detected

7.0 TECHNICAL ASSESSMENT

7.1 FUNCTIONALITY OF REMEDY

This section answers the question, "Is the remedy functioning as intended by the decision documents?" The functionality of the remedy components applicable to each site is summarized by OU in the sections that follow.

7.1.1 Functionality of Remedy for Operable Unit A

Is the OU A remedy functioning as intended by the OU A ROD and SAERA decision documents? The remedy is functioning as intended by the OU A ROD and the SAERA decision documents for 174[1] of 179[2] of the OU A and post-ROD sites on Adak. All of the remedy components required by the OU A ROD have been implemented and are functioning as intended by the ROD for all of the OU A sites, other than those four discussed below. The landfill caps and covers have been constructed and are regularly inspected and maintained. The ponds at SWMU 17, Power Plant No. 3 have been drained, dredged, and restored. Impacted sediment has been removed from South Sweeper Creek, and limited soil removals have been completed at all of the petroleum sites selected for this remedy component. Interim remedial action product recovery has been performed at the 14 free-product recovery petroleum sites.

An ICMP is in place, and IC inspections occur annually. Deficiencies are identified and corrective action is consistently taken. The inspection and associated follow-up is functioning as intended. Excavation notification and management processes improved over the course of this review period (see year-by-year discussions in Section 6.5) and are functioning well. Long-term monitoring has been initiated and is ongoing. The long-term monitoring goals and requirements are periodically revisited to maintain focus on the endpoint goals. The Navy and USGS have shown that natural attenuation of petroleum compounds continues to occur on Adak, and natural attenuation monitoring is part of the long-term monitoring program. Where the data support a quantitative estimate, it appears that natural attenuation can be reasonably expected to achieve endpoint criteria within 75 years of ROD execution.

The final remedy established under SAERA decision documents has been implemented at all of the 14 free-product sites. Limited groundwater monitoring, implementation of ICs, and

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[1]Although the remedy is considered to not be functioning as intended for only four sites (listed later in this section), one of those four sites (NMCB Building Area) is actually a combination of two NMCB sites that were part of the 178 sites in the OU A ROD.
[2]178 OU A sites (see Section 3.1) plus the Tango Pad site (post-ROD site)

monitored natural attenuation have been implemented where required through adjustments to the CMP.

The additional remedy components required under the SAERA decision documents for the NMCB Building Area, SWMU 62, and South of Runway 18-36 were implemented in 2006 (U.S. Navy 2007c). These additional components included soil hot spot removal, additional monitoring and free product recovery wells and trenches, and deployment and operation of free-product recovery systems. Implementation of the last component, deployment and operation of free-product recovery systems, may have been implemented at these three sites in accordance with the decision documents. Although the deviation of the free-product recovery methodology from the decision document methodology would not, by itself, necessarily indicate that the remedies were not functioning as intended at these sites, other evidence calls into question the functionality of the remedy at NMCB Building Area, as discussed further below.

The remedy is not functioning as intended for the following four sites:

- Former Power Plant, Building T-1451
- SWMU 60, Tank Farm A
- SWMU 61, Tank Farm B
- NMCB Building Area, T-1416 Expanded Area

At the Former Power Plant and SWMU 60, ongoing impacts at adjacent surface water bodies indicate that the monitored natural attenuation remedy selected in the OU A ROD is not functioning as intended. Additional investigation was performed at these sites in 2010 in preparation for additional action.

At SWMU 61, Tank Farm B, increasing or elevated concentrations in groundwater samples from monitoring wells and the surface water protection well call into question the functionality of the remedy. However, dissolved petroleum hydrocarbons have not been measured in surface water above ADEC criteria, despite the occasional observation of a sheen. The area where impacted groundwater is present is a wetland, and the potential harm of any additional remedial action to supplement monitored natural attenuation selected in the ROD outweighs the potential benefit.

At NMCB Building Area, free-product thicknesses appear to be increasing in three surface water protection wells (02-818, NMCB-07, and NMCB-10). In addition, the maximum free product thickness measured at the site since monitoring began in 2006 was measured in 2010 at five wells, including two surface water protection wells (02-818 and NMCB-10). This product thickness trend calls into question the functionality of the remedy at this site, and additional actions should be evaluated as required by the decision document.

7.1.2 Functionality of Remedy for Operable Unit B-1

Is the OU B-1 remedy functioning as intended by the OU B-1 ROD? The OU B-1 remedy is functioning as intended by the OU B-1 ROD.

The selected remedies have been implemented at all of the 50 action sites identified in the OU B-1 ROD, although the remedy cannot be considered complete at all 50 sites until all of the after-action reports are complete, documentation of remedy implementation is complete, and concurrence from the regulatory agencies is received (see Section 4.2.3 for a discussion of these outstanding items). Conditional closure has been achieved for 18 of the 50 sites. ADEC and EPA have not yet concurred with all of the remedial actions, and, therefore, the remedy cannot be considered complete at all sites.

Key components of the OU B-1 remedy are the ICs and LUCs, including the ordnance awareness program and the excavation restrictions. The functionality of these remedy components is much improved, compared to the previous 5-year review. However, the interview responses and annual survey results indicate that improvements to the ordnance awareness program will be an ongoing effort by the Navy. A key measure of the functionality of these components is the frequency and severity of ordnance encounter incidents. One or more incidents of ordnance encounters by the public or contractors were reported during this 5-year review period (see Section 6.5). In each case, the ordnance finds were reported to the EOD team as required by the ordnance awareness training, indicating that ordnance awareness is functioning well.

7.1.3 Operation and Maintenance Costs

O&M costs were generally stable over this 5-year review period and totaled $1.78 million for this 5-year review period. Monitoring costs were similar from year to year and totaled $9.64 million for this 5-year review period. Landfill repair costs were incurred during several repair events over the course of this 5-year review period. The costs of landfill repairs compared to historical costs did not indicate a trend of increasing repair activity.

The trends in operation, maintenance, and monitoring costs are not indicative of any remedy problems.

7.2 CONTINUED VALIDITY OF ROD ASSUMPTIONS

Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of remedy selection still valid? Yes.

This section reviews any changes to ARARs used to establish remediation goals (RGs) in the RODs and SAERA decision documents and reviews any changes to risk assessment assumptions (exposure and toxicity) to evaluate the protectiveness of the remedy. The findings documented in this section are that changes in the ARARs, exposure, and toxicity assumptions that have occurred since the RODs and SAERA decision documents were signed do not affect the protectiveness of the remedies. Concentrations of many chemicals in groundwater remain above the RGs within the downtown area of Adak at the majority of locations where long-term monitoring is occurring. This results in the need for continued ICs to prevent exposure and the need for ongoing monitoring. Although some of the RGs might be lower if selected today, the remedy components continue to protect against exposures, just as they did at the time the ROD was signed. ICs preventing exposure and ongoing monitoring will need to continue until COC concentrations in groundwater are below the RGs. As per the second 5-year review recommendation, the endpoint criteria being used to evaluate sediment concentrations at SWMU 11, Palisades Landfill were found to be unnecessarily restrictive and were revised in the CMP, Revision 4, to more closely reflect potential health risks due to sediment exposures at SWMU 11. Therefore, the CMP, Revision 4, values are presented here, and earlier endpoint criteria do not require assessment.

7.2.1 Review of Applicable or Relevant and Appropriate Requirements

In the preamble to the NCP, EPA stated that ARARs are generally “frozen” at the time of ROD signature, unless new or modified requirements call into question the protectiveness of the selected remedy. Five-year review guidance (USEPA 2001) indicates that the question of interest in developing the 5-year review is not whether a standard identified as an ARAR in the ROD has changed in the intervening period, but whether this change to a regulation calls into question the protectiveness of the remedy. If the change in the standard would be more stringent, the next stage is to evaluate and compare the old and the new standards and their associated risk. This comparison is done to assess whether the currently calculated risk associated with the standard identified in the ROD is still below the ROD-specified acceptable excess cancer risk range maximum of 1×10^{-5}[3]. If the old standard is not considered protective, a new cleanup standard may need to be adopted after the 5-year review through CERCLA’s processes for modifying a remedy.

During the first and second 5-year review for Adak, no substantive change was found to ARARs that would call into question the protectiveness of the remedy. For this 5-year review, all the ARARs identified in the RODs for OU A and OU B-1 were again reviewed for changes that could affect the assessment of whether the remedy is protective.

[3]This number is both the ADEC risk goal and the target risk goal established in the ROD. However, the EPA’s acceptable standard risk range is from 1×10^{-4} to 1×10^{-6}.

Some ARARs that were used in the determination of cleanup levels have been amended since publication of one or both of the two RODs. These amended regulations are the following:

- Alaska 18 AAC 75 cleanup levels (ADEC 2009)
- Federal and state drinking water regulations (MCLs) (USEPA 2009)
- Federal national recommended water quality criteria for protection of surface water (USEPA 2009)

The result of the amendments to the regulations is sometimes the lowering of a numeric ARAR. In these instances, the revised ARAR must be evaluated to determine whether there is a negative effect on the protectiveness of the remedy (in other instances, the ARAR remains unchanged, or has been raised).

Operable Unit A – CERCLA Sites

As discussed in earlier sections, the CERCLA sites were divided into three broad categories: landfills, sites requiring ICs because of excess health risks (either human or ecological), and sites requiring active cleanup. Two additional landfills, Roberts and White Alice Landfills (SWMUs 25 and 18/19), are included in this discussion, although they are being addressed under the State's solid waste disposal regulations, rather than CERCLA. Numeric RGs were established only for marine tissue and for sediment at SWMU 17. For ongoing monitoring of groundwater and sediments at SWMU 11, Palisades Landfill, the first long-term monitoring plan (U.S. Navy 2001a, Appendix E) established "criteria endpoints" that have been used to evaluate the groundwater and sediment results. No numeric RG was established in the ROD for groundwater or soil at CERCLA sites. Changes to ARARs and endpoint criteria because of changes in the regulations are discussed below by media.

Soil. The OU A ROD did not identify any COC in soil, and therefore no RG or criterion endpoint was established for CERCLA sites. The impact of changes in soil ARARs on sites that were previously designated as "no further action" are discussed in Section 7.2.2 under risk assessment assumptions.

Groundwater. For all groundwater that could be used as drinking water, the ROD established criteria endpoints as the federal MCLs or Alaska State MCLs (18 AAC 73.345, Table C) (but did not provide numeric RGs in the ROD itself). Additionally, for all groundwater, regardless of its potential use as a drinking water source, the ROD established state and federal surface water quality standards as RGs at groundwater monitoring locations between impacted areas and downgradient surface water (again, numeric RGs were not specified in the ROD). Ongoing groundwater monitoring is occurring at SWMUs 14, 15, 17, and 55 and at all four landfills with active monitoring (SWMUs 11, 13, 18/19, and 25). The groundwater COCs identified in the OU A ROD because of exceedances above MCLs at the time of the ROD (Section 10.3 of the OU A ROD; U.S. Navy, USEPA, and ADEC 2000) are the following:

- Benzene
- Bis(2-ethylhexyl)phthalate
- GRO
- Lead
- Methylene chloride
- Tetrachloroethene
- Ethylbenzene
- Thallium
- Toluene
- Trichloroethene

Table 7-1 compares current ARAR values for the groundwater pathway with the endpoint criteria that have been used in the long-term monitoring program (the numeric values were based on the regulations cited in Section 10.3.5 of the OU A ROD as the applicable cleanup criteria, but were formalized in the first CMP published in 2001; the current CMP is the fourth revision and was published in 2010). There has been only one change to the MCL ARARs for the COCs listed in the ROD. The 18 AAC 75 groundwater cleanup level for GRO has increased, making the value less stringent. Therefore, the endpoint criteria used in the long-term monitoring program are still protective.

For the surface water criteria that the ROD indicated would be used to evaluate groundwater discharging to surface water, there are also cases where state and federal surface water quality standards for the COCs have changed. Where these standards have changed, the standards are now lower for some chemicals and higher for others. Surface water criteria changes are also noted in Table 7-1. Changes to surface water criteria do not affect the protectiveness of the remedy, because (1) all the groundwater monitoring at the CERCLA sites is of water that could be used as a drinking water source, and, thus, concentrations of COCs would have to meet MCLs before monitoring could be discontinued, and (2) with the exception of lead, all surface water ARARs shown in Table 7-1 are at higher concentrations than their respective MCLs, and the ARAR for lead in surface water has not changed.

The ongoing long-term groundwater monitoring occurring at the site has evaluated a much longer list of chemicals than the ROD COCs, varying by specific well and SWMU. This longer list of analytes was intended to include all detected chemicals in the analytical program (U.S. Navy 2004, Appendices A and B). Potential changes in ARARs for these additional chemicals were not evaluated in this 5-year review, because these chemicals are not COCs. As recommended in Section 8, periodic updates to the CMP should consider ARAR changes for all analytes, including these additional chemicals. Although the CMP cannot change an endpoint criterion or RG that is established in a ROD or SAERA decision document, the CMP can note when changes to ARARs have occurred so that the project team can consider whether changing ARARs has any ramification for the monitoring program.

Surface Water. No specific COCs were provided in the OU A ROD for the surface water monitoring that the ROD required at landfill SWMUs 11, 13, 18/19, and 25. However, the ROD stated that surface water monitoring for SWMUs 11 and 13 should follow the requirements listed for groundwater. Consequently, the CMP established the state water quality standards (18 AAC 70) as the endpoint criteria and developed a list of COCs based on detected chemicals. Federal water quality criteria were used if no state criterion was available. Table 7-2 lists the COCs and endpoint criteria established in the CMP and compares current ARAR values for the surface water COCs and endpoint criteria presented in the long-term monitoring plan in the first CMP (U.S. Navy 2001a, Appendix F). The endpoint criteria in the CMP have been used as indicators for whether surface water at SWMUs 11, 18/19, and 25 requires continued monitoring or whether COCs in surface water can be considered to be without an appreciable human or ecological health risk.

For the majority of the surface water COCs, state and federal surface water quality standards have changed. Where these standards have changed, the standards are now lower for some chemicals and higher for others. The following ecological ARARs for surface water have decreased (become more stringent): arsenic, cadmium, chromium III, copper, mercury, nickel, and zinc. For human health ARARs, the following chemicals now have lower endpoint criteria as well: benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, PCBs, toluene, trichloroethene, ethylbenzene, antimony, and thallium. For the chemicals trans-1,2-dichloroethene and selenium, there are now human health ARARS available while there were none prior to new criteria changes. These ARAR changes do not affect the protectiveness of the remedy, because the COCs are no longer being detected for the majority of these chemicals, or detections are low and relatively infrequent. Summary reports from the most recent annual landfill monitoring reports for SWMU 11 and SWMUs 18/19 report mostly nondetect results, with detected results all lower than current surface water ARARs (U.S. Navy 2007f, 2008d, 2009c, 2010g, and 2011c). The most recent annual landfill monitoring reports for SWMU 25 report data for copper only exceeding the old and current ecological ARAR for surface water. However, no other chemical exceeded new human health or ecological ARARs (U.S. Navy 2007f, 2008d, 2009c, 2010g, and 2011c).

Sediment. Cleanup levels for sediment removal at the SWMU 17 waste oil pond were based on 18 AAC 75 soil criteria for the site COCs: PCBs (1 mg/kg), antimony (3 mg/kg), and mercury (1.4 mg/kg). Soil criteria were used to determine when cleanup was complete, because the pond's water and sediment were removed and the remaining material would be soil, not sediment. Sediment that was removed was treated until DRO and RRO concentrations met disposal requirements for Roberts Landfill (100 and 2,000 mg/kg, respectively). Neither cleanup levels nor treatment levels have changed since the OU A ROD was signed. PCBs were the only COC in sediments in the retention pond (also at SWMU 17) and the sediments in South Sweeper Creek. The PCB cleanup level used at those locations was also 1 mg/kg, based on state soil criteria. This value has also not changed. Therefore, the sediment removal remedies implemented at SWMU 17 and South Sweeper Creek remain protective, based on this assessment of ARARs changes.

Both fresh and marine sediments are part of the long-term monitoring of the effectiveness of the landfill cover (i.e., part of the engineering controls) at SWMU 11. No COC or RG was established in the ROD. Therefore, the risk-based levels used to screen sites in the preliminary source evaluation 2 (PSE-2) process (U.S. Navy 1996a) were selected as the endpoint criteria for SWMU 11 sediments, and COCs were selected based on historical chemical detections. Table 7-3 presents the endpoint criteria listed in Appendix F of the CMP, Revision 4 (U.S. Navy 2010a) and indicates whether they were based on human or ecological health. The lower of the two values was selected as the endpoint criteria. The risk basis of the endpoint criteria has changed since the ROD was signed. Based on recommendations from the second 5-year review, the endpoint criteria were reevaluated in the final CMP (U.S. Navy 2010a), because the previous values were unnecessarily protective. The final CMP values have been accepted by the stakeholders and are presented on Table 7-3.

Table 7-3 compares the ecologically based endpoint criteria with current Alaska soil cleanup levels (18 AAC 75) protective of human health and, for metals, site-specific background levels. There are no cleanup levels established for sediment. In most cases, values based on human health soil cleanup levels would be higher. Therefore, the endpoint criteria remain protective for both ecological and human receptors.

Marine Tissue. The ROD established risk-based RGs for fish and shellfish in Kuluk Bay and Sweeper Cover. PCBs were the only COC. The PCB RGs of 0.0065 and 0.031 mg/kg for fish and shellfish, respectively, would not be different if the risk-based levels were calculated today, because the toxicity and exposure criteria have not changed. The toxicity and exposure criteria used to calculate these RGs are discussed further in Section 7.2.2.

Operable Unit A – Petroleum Sites

Separate RGs were established for the petroleum and CERCLA sites. Table 7-4 lists the ROD RGs for the petroleum COCs in soil and groundwater. The ROD petroleum RGs were all based on Alaska state regulations 18 AAC 75.340, 341, and 345. Table 7-4 also indicates which values have changed since the signing of the ROD. Over half the soil RGs would be different if established today; only 3 out of 26 groundwater RGs would be different. However, none of the changes affects the protectiveness of the remedy. Specific changes are discussed below by media.

Sixty-two petroleum sites were withdrawn from the OU A ROD via the OU A ROD Amendment 1, signed in 2003, and are being administered by State-lead cleanup regulations. Of the 62 sites removed from the OU A ROD, 46 sites were further action sites and 16 were NFA sites. All OU A ROD cleanup levels for the petroleum sites were based on state regulations. Therefore, for sites that have been previously remediated to the OU A ROD RG levels, the amendment does not affect cleanup or the protectiveness of the remedy.

Soil. ARAR values for soil have changed for many of the COCs, because 18AAC 75 soil cleanup level calculations now consider the dermal pathway (meaning exposures through both incidental ingestion of soil and through dermal absorption of the contaminant from soil). Table 7-4 shows that the majority of chemicals would have lower RGs if established today. Though many of the soil cleanup levels have changed for most COCs, DRO was the soil COC driving cleanup at the petroleum sites. Sites where soil petroleum concentrations exceeded 18 AAC 75 soil criteria for DRO were selected for limited soil removal. The 18 AAC 75 soil cleanup level for DRO has not changed. None of the changes to soil COC ARARs would affect the protectiveness of the remedy. Based on a review of soil data at petroleum sites, although most of the numeric soil ARARs changed to approximately half of their value (because of changes in exposure factors), these changes would not cause any new petroleum-related chemicals risk drivers. Xylenes (total) is the only chemical that was lowered by a significant amount (approximately one order of magnitude) from its ROD-listed RG. However, no soil data for petroleum sites have xylene concentrations above the new ARAR of 16,600 mg/kg.

Groundwater. The ARARs used to establish groundwater RGs for the petroleum sites were both those for groundwater as a source of drinking water and for groundwater as a contributor to surface water. Naphthalene is the only chemical listed in the OU A ROD for which the new ARAR value is lower (more stringent). The 18 AAC 75 groundwater cleanup level for naphthalene for the drinking water pathway is currently 0.7 mg/L, while the previous cleanup level was 1.46 mg/L. This change does not affect the protectiveness of the remedy, as long as ICs remain in place. Even if ICs were to be removed, naphthalene has never been detected in groundwater above 0.7 mg/L. The ARAR value for GRO has changed and is now higher (less stringent), indicating that the RG for GRO remains protective. Prior to this 5-year review, phenanthrene did not have a groundwater cleanup level, however now the 18 AAC 75 groundwater cleanup level is listed as 11 mg/L. This new ARAR does not affect the protectiveness of the remedy, because the chemical is no longer being detected in groundwater.

Free-Product Petroleum Sites—No Unacceptable Risk Sites

For the 14 free-product sites, site-specific RGs have been calculated based on risk assessments conducted according to ADEC guidance (ADEC 2000). These risk-based cleanup levels are different than the Alaska cleanup levels shown in Table 7-4. The following 10 of the 14 free-product sites were determined to pose no unacceptable risk to human health or the environment under current land use conditions. The remaining four free-product petroleum sites are discussed separately below.

- GCI Compound
- SA 80, Steam Plant 4
- Tanker Shed
- SA 78, Old Transportation Building
- SA 82, P-80/P-81 Buildings
- SA 88, P-70 Energy Generator
- SWMU 58, Heating Plant 6
- SA 73, Heating Plant 6
- Yakutat Hangar
- NORPAC Hill Seep Area

The RGs for these 10 sites were selected and approved by ADEC in the *Final Decision Document for Petroleum Sites With No Unacceptable Risk* (U.S. Navy and ADEC 2005a). It should be noted that although SWMU 58 and SA 73 were established as separate sites, they are both located at Heating Plant 6 and are addressed as a single site. The RGs selected for these 10 sites are discussed below.

Soil. Under the ADEC Method Four cleanup levels for soil, site-specific alternative cleanup levels (ACLs) may be proposed based upon results of the risk assessment conducted for an individual site. Proposed ACLs are submitted to the ADEC for approval. These ACLs are designated for an individual site if the ADEC agrees that they are protective of human health, safety, and welfare and of the environment (18 AAC 75.340[f]). Because the risk assessments for these 10 sites established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level, separate ACLs were not calculated, and, by default, the existing contaminant levels at each site become the site-specific RGs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site, as per the Adak Reuse Plan, do not change.

Groundwater. RGs specified for groundwater at these 10 free-product petroleum sites are based on the use of groundwater as a drinking water source (18 AAC 75.345[b][1], Table C), or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water (18 AAC 75.345[b][2]). Groundwater at the GCI Compound, SA 80, and Tanker Shed sites is considered to be a reasonably expected potential future source of drinking water. Groundwater cleanup levels for these sites are those specified in Table C of 18 AAC 75.345(b)(1) (Table 7-4). Groundwater at the seven remaining sites is not considered to be a reasonably expected potential future source of drinking water. Groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations (Table 7-4). As previously stated, naphthalene is the only chemical of which the new ARAR value is lower (more stringent). However, the remedy (ICs preventing water use) remains protective. In any case, naphthalene has never been detected in groundwater above its current Table C value.

ADEC's 2009 revisions to its cleanup regulations have removed the provision for the "10 times" rule from the groundwater cleanup regulations (previously 18 AAC 75.345[b][2]). Therefore, if groundwater cleanup levels were established today at the seven sites where groundwater is not expected to be a source of drinking water (SA 78, SA 82, SA 88, SWMU 58/SA 73, Yakutat Hangar, and NORPAC Hill Seep Area), different cleanup levels would apply. However, the rationale provided in the Decision Document for these sites as to why groundwater would not be a future drinking water source still applies (U.S. Navy and ADEC 2005a). Because the groundwater beneath these sites could not be used for domestic supply, remedies remain protective. Specifically, SA 78, SA 82, SA 88, and SWMU 58/SA 73 are located outside the downtown aquifer area where groundwater yield would be insufficient to support a domestic water supply well, because of the geologic conditions (e.g., tephra deposits). Although both Yakutat Hangar and NORPAC Hill Seep Area (the remaining two "no drinking water" sites) are technically located within the designated downtown area, neither location could support a groundwater supply well. Groundwater at Yakutat Hangar is located at too shallow a depth to meet minimum well and source water protection requirements in the Alaska regulations, and NORPAC Hill Seep Area is located so close to Kuluk Bay that a supply well would draw too much salt water during pumping. In any case, ICs preventing groundwater use for drinking are in place for all locations. If ICs were ever removed, drinking water standards would have to be met. Consequently, the remedy remains protective.

Free-Product Petroleum Sites—Unacceptable Risk Sites

The remaining 4 free-product petroleum sites were determined to pose unacceptable risk to human health and/or the environment and were evaluated separately from the 10 free-product sites discussed above. The decision documents for the NMCB Building Area (T-1416 Expanded Area), South of Runway 18-36 Area, SWMU 62 (New Housing Fuel Leak), and SWMU 17 (Power Plant No. 3 Area) were finalized in 2006 and 2007 (U.S. Navy and ADEC 2006a, 2006b, 2006c, and 2007). The RGs for all of these sites are presented in Table 7-5 and are discussed below.

Soil. For both SWMU 17, Power Plant No. 3 Area and South of Runway 18-36 Area, the risk assessments established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present level. Therefore, as discussed above for the no-risk sites, no separate ACLs were calculated for these sites and, by default, the existing contaminant levels at the site become the site-specific RGs (U.S. Navy and ADEC 2005a and 2007). For the NMCB Building Area, T-1416 Expanded Area, the RGs are based on the ACLs calculated for DRO and GRO in soil protective of construction worker exposures to soil (U.S. Navy and ADEC 2006a). The RGs for the SWMU 62, New Housing Fuel Leak site are based on the ACLs calculated for DRO in soil protective of child residential exposures (U.S. Navy and ADEC 2006b). Any changes of numeric calculations based on risk are addressed in Section 7.2.2 under toxicity criteria and exposure parameters. As described in Section 7.2.2, there is no significant change.

Groundwater. RGs specified for groundwater at these four free-product petroleum sites are based on the use of groundwater as a drinking water source (18 AAC 75.345[b][1], Table C), or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water (18 AAC 75.345[b][2]). Groundwater at the SWMU 62, New Housing Fuel Leak site is considered to be a reasonably expected potential future source of drinking water. Groundwater cleanup levels for this site are those specified in Table C of 18 AAC 75.345(b)(1) (Table 7-5). Groundwater at NMCB Building Area, T-1416 Expanded Area, South of Runway 18-36 Area, and SWMU 17, Power Plant No. 3 area sites are not considered to be a reasonably expected potential future source of drinking water. Groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations (Table 7-5), of which only one change to the Table C values is applicable to the COCs at these sites. Although the ARAR for GRO has changed, it is now higher (less conservative) and therefore still protective of the remedy.

As noted above for the petroleum sites without health risks, ADEC’s 2009 revisions to its cleanup regulations have removed the provision for the “10 times” rule from the groundwater cleanup regulations. Therefore, if groundwater cleanup levels were established today at NMCB Building Area, South of Runway 18-36 Area, and SWMU 17, different cleanup levels would apply. However, also as noted above, the rationale provided in the Decision Document for these sites as to why groundwater would not be a future drinking water source still applies (U.S. Navy and ADEC 2006a, 2006c, and 2007). Salt water intrusion would be an issue at NMCB Building Area and South of Runway 18-36 Area because of the proximity of these sites to Sweeper Cove. At SWMU 17, the upland area’s geological conditions would not allow sufficient yield for a water supply well, and the groundwater in the lowland area is located at too shallow a depth to meet minimum well and source water protection requirements in the Alaska regulations. In any case, ICs preventing groundwater use for drinking are in place at these locations. If ICs were ever removed, drinking water standards would have to be met. Consequently, the remedy remains protective.

Surface Water and Sediment. For surface water bodies of the state, Alaska regulation 18 AAC Chapter 70 establishes water quality standards based on water use classes and subclasses. The water quality standards established for this use class and subclass specify that petroleum hydrocarbons, oils, and grease may not cause a film, sheen, or discoloration on the surface or floor of the water body or adjoining shorelines and that surface waters must be virtually free from floating oils (18 AAC 70.020[b][5][B][ii]). These standards or ARARs have not changed. These water quality standards apply to three of the four free-petroleum sites with unacceptable risks: the NMCB Building Area, South of Runway 18-36 Area, and SWMU 17, Power Plant No. 3 Area (U.S. Navy and ADEC 2006a, 2006c, and 2007). In addition to ARARs for film sheen or discoloration, compound-specific numeric risk-based cleanup levels were established for surface water and sediment.

For the South of Runway 18-36 Area site, because Alaska State Regulations do not establish surface water cleanup levels for individual chemicals, DRO, or GRO, the results of the ecological risk assessment were used to establish additional risk-based cleanup levels for chemicals in surface water that may result in a potential risk to ecological receptors (U.S. Navy and ADEC 2006c). These risk-based cleanup levels are additional RGs for surface water and do not replace the TAqH and TAH criteria specified in 18 AAC Chapter 70.

Likewise, Alaska State regulations do not establish chemical-specific cleanup levels for sediment. Therefore, for the South of Runway 18-36 Area, sediment cleanup levels were established based on the results of the ecological risk assessment (U.S. Navy and ADEC 2006c). Risk-based cleanup levels were only established for those chemicals that could potentially pose an unacceptable risk to ecological receptors from exposure to sediment in South Sweeper Creek.

There are currently no significant input parameters that would change the calculated values for the ecologically based cleanup levels for either surface water or sediment of the South of Runway 18-36 Area. Therefore, the cleanup levels remain protective.

For the NMCB Building Area, SWMU 62, New Housing Fuel Leak, and SWMU 17, Power Plant No. 3 Area, sediment cleanup levels were not established, because results of the ecological risk assessment found no ecological risk above target health goals in sediment. Therefore, cleanup levels are not necessary for sediment at these sites (U.S. Navy and ADEC 2006a, 2006b, and 2007). However, ongoing monitoring of sediment at these sites reference the South of Runway 18-36 Area sediment cleanup levels as a screening tool to provide information on the progress of contamination reduction at these locations.

Migration-to-Groundwater ARAR Screening of NFA Sites (Both CERCLA and Petroleum Sites)

Soil RGs were not established for the CERCLA sites, but were established for the petroleum sites based on direct human or ecological contact with the soil (discussed below). At neither CERCLA nor petroleum sites were concentrations of COCs in soil evaluated against Alaska's soil cleanup levels protective of groundwater—referred to as migration-to-groundwater cleanup levels (18 AAC 75). As described above, groundwater contamination has been empirically assessed at OU A by evaluating concentrations of chemicals in groundwater. Areas of impacted groundwater on Adak have been identified and are being addressed by the various remedies discussed in this review. However, for sites that were designated as NFA, either during the RI/FS process or after the ROD, groundwater was not identified as impacted and there is no ongoing monitoring. As an assessment of the potential for residual contamination in soil to have a future adverse effect on groundwater, the chemical soil data at NFA sites was compared to current migration-to-groundwater cleanup levels according to the following process:

- The soil data for the NFA sites were compared to current Alaska migration-to-groundwater ARARs.
- NFA sites with a maximum concentration of a chemical exceeding a current migration-to-groundwater ARAR were identified for further evaluation (see Table E-1 in Appendix E for the complete list of these 47 sites).
- Further evaluation consisted of answering the following questions:

  1. Were exceedances of current ARARs present in more than 10 percent of the data, and was the maximum exceedance greater than 2 times the cleanup level?
  2. Were exceedances of current ARARs greater than background levels?
  3. Is there a possible groundwater pathway?
  4. Were the migration-to-groundwater pathways previously evaluated and were risks evaluated for chemicals exceeding ARARs (hazards or risks did not exceed target goals)?

The NFA sites that answered yes to questions 1 and 2 were further evaluated to ensure there was an associated groundwater pathway for actual migration to occur. If these sites did have a continuous groundwater pathway, then site information presented in the PSE-1 and PSE-2 reports for Batch 1 and Batch 2 sites (U.S. Navy 1995a, 1995b, 1996a, and 1996b) was reviewed for each site to assess whether (1) the migration to groundwater pathway had been previously evaluated and (2) any chemicals were identified as having the potential to exceed a target health goal. If a chemical had already been previously evaluated, the site was eliminated as a potential concern (i.e., the NFA status does not need to be reviewed [details are presented in Appendix E, Table E-1]). Table 7-6 presents the 16 NFA sites that answered yes to questions 1, 2, and 3 above and were identified in question 4 as having a chemical/pathway combination that had not been previously evaluated. Of these 16 sites, 10 have at least one concentration of a metal exceeding a current migration-to-groundwater level (lead at all 10 sites, plus chromium at 2 of the 10 sites, arsenic at 1 of the 10 sites, and vanadium at 1 of the 10 sites). While the maximum concentrations did exceed background levels established for Adak and the migration-to-groundwater ARAR, soil at these sites is unlikely to pose a threat to groundwater for the following reasons:

- Concentrations are all relatively low, with generally few exceedances above an ARAR.
- Arsenic, chromium, and vanadium were not identified as COCs in groundwater anywhere on Adak and have not been detected in groundwater above background levels or MCLs.
- Lead was identified as a COC in groundwater in the ROD and is already being tracked in groundwater at many sampling locations. Therefore, for the NFA sites within areas where groundwater is being monitored (e.g., the downtown area) where there are some exceedances of migration-to-groundwater levels, no additional action would be required. One site, SWMU 12, in Table 7-6 is not near or in an area with ongoing groundwater monitoring. This site is in a remote area of the island where groundwater is unlikely ever to be used.

Therefore, the 10 “metals” sites in Table 7-6 do not need any additional actions and their NFA status remains appropriate.

For the remaining six NFA sites shown in Table 7-6, petroleum constituents were identified as having at least one soil concentration exceeding a migration-to-groundwater ARAR as follows:

- Benzene, one site (already identified as a COC in groundwater)
- Xylenes, three sites
- Naphthalene, one site
- Benzo(a)pyrene, three sites
- Benzo(b)fluoranthene, one site

As shown in the final column of Table 7-6, soil samples were collected at these sites in the early 1990s, and, because petroleum compounds degrade, concentrations today are almost certainly lower than the maximum values listed on Table 7-6. In addition, only one or two of these historical samples exceeded the ARAR. Therefore, as with the metals site, none of the petroleum constituent sites on Table 7-6 needs any additional action, and their NFA status remains appropriate.

Operable Unit B-1

Soil. Table 7-7 compares current ARAR values for the soil pathway with those presented in Table 8-1 in the OU B-1 ROD (U.S. Navy, USEPA, and ADEC 2001). The current 2010 screening values for two chemicals (nitroglycerin and tetryl) are now lower than the values listed in the ROD. The former EPA Region 9 preliminary remediation goal numbers used in the previous 5-year review have now been replaced with the EPA 2010 regional screening values (USEPA 2010a). Nitroglycerin was 35 mg/kg, and the current value is 6.1 mg/kg. Tetryl was 610 mg/kg, and the current value is 240 mg/kg. The current cleanup values for 2,4,6-trinitrotoluene and RDX are now higher (less restrictive) and therefore protective. Soil sampling results from 2001 and 2002 were well below the new cleanup levels. Therefore, the selected RGs and remedies, with respect to chemical contamination, remain protective.

7.2.2 Review of Risk Assessment Assumptions

Risk assessment assumptions (both human and ecological) were also reviewed as part of the requirement to assess the continued protectiveness of the remedies. The 14 petroleum-site risk assessments were finalized in recent years, and risk assumptions for these sites are current for this 5-year review. Therefore, the discussions in this section apply mainly to the CERCLA sites for which remediation decisions were based on the results of historical risk assessments from as long ago as 1995 and for those sites (both CERCLA and petroleum) determined to require NFA during the RI/FS process, as determined by a risk assessment screening process (PSE-1 and PSE-2). It is these NFA sites where changes in risk assessment assumptions might affect the protectiveness of the remedy. For both the CERCLA sites evaluated in the RI/FS process and for NFA sites, important risk assessment assumptions can be divided into two broad categories: (1) assumptions regarding chemical toxicity, and (2) assumptions regarding chemical exposure.

OU A CERCLA Sites Evaluated in the Remedial Investigation and Feasibility Study and OU A Record of Decision

Toxicity Criteria. The toxicity criteria were reviewed for those chemicals where RGs and endpoint criteria are site-specific risk-based concentrations. The only risk-based RGs established in the OU A ROD are those established for fish and shellfish tissue in Kuluk Bay and Sweeper Cove and the sediment endpoint criteria established for SWMU 11, Palisades Landfill. There have been no changes to toxicity criteria used to calculate the risk-based RGs or endpoint criteria. The toxicity criteria for PCBs (used to calculate fish tissue RGs) and the human health risk-based criteria shown in Table 7-3 have not changed since the ROD was signed, based on a review of the latest toxicity criteria presented in EPA's Integrated Risk Information System (IRIS), EPA's online database of toxicity criteria (USEPA 2010b). Therefore, no toxicity criterion change has occurred. For the ecological risk-based criteria shown in Table 7-3 (PCBs, antimony, chromium, and nickel), toxicity criteria were reviewed as recently as 2009, and there is no new change.

Exposure Parameters for Human Health. Risk assessments were conducted for the sites within OU A (the CERCLA sites) that "failed" the PSE-1 and PSE-2 screening process (i.e., were identified as requiring further evaluation). This section focuses on human health exposure parameters, because the land use changes discussed here would not affect ecological receptors. Ecological exposures have not significantly changed since the ROD was signed. At the time the risk assessments were completed, Adak was an active military facility. Therefore, the risk calculations for human health assumed that the maximum length of time for exposures on Adak was 15 years for civilians and 5 years for military personnel. Therefore, the residential exposure calculations included a 15-year exposure duration (6 years as a child and 9 years as an adult), and the occupational and recreational exposures were assumed to be 5 years in duration. EPA's default exposure duration for residential and occupational exposures is 30 and 25 years, respectively.

Because the land use on Adak has changed from an active military installation to regular civilian use, EPA default exposure durations are more appropriate for evaluating health risks. Because risk and hazard calculations are linear, a doubling of the exposure duration (from 15 to 30 years) would result in a doubling of the estimated health risks and hazards. Estimated risks for occupational and recreational exposures would thus increase by a factor of five (from 5 years to 25 years). For example, for arsenic, the risk driver for SWMU 4, the calculated risks for residential exposure to ingestion of soil was 3×10^{-5} using an exposure duration of 15 years, but would be 6×10^{-5} using an exposure duration of 30. For SWMU 1, occupational risks to ingestion of soil for benzopyrene was 1.5×10^{-8} at an exposure duration of 5 years, but would be 7.7×10^{-8} at an exposure duration of 25 years. Table E-2 in Appendix E presents the 18 OU A CERCLA sites where a human health risk assessment was conducted and presents the original risk results and the risk results if risks were calculated today using current land use assumptions. An increase in risks and hazards by factors of two to five would affect the protectiveness of the remedy under the following circumstances:

- Sites were determined to have risks below target health goals, and risks would be above target health goals if risks were doubled or increased by a factor of five (see further discussion under section titled Sites Selected for NFA).

- Sites with ICs that allow commercial use but not residential would exceed target risk goals for commercial use if commercial risks were increased by a factor of five.

- Sites were remediated using risk-based cleanup levels that were based on a 15- or 5-year exposure duration and, thus, contamination may have been left in place that would exceed a 30- or 25-year risk-based cleanup level.

- Sites were not evaluated for vapor intrusion.

The last three bullets, which pertain to CERCLA sites, are discussed further in the following paragraphs. The first bullet is discussed further under Sites Selected for NFA in the succeeding section.

Sites Selected for Institutional Controls. Of the 18 sites with human health risk assessments shown in Table E-2 in Appendix E, all have some type of institutional control preventing:

- Residential land use
- Groundwater used as a drinking water source
- Seafood ingestion (water body sites)

For sites preventing residential development or use of groundwater for drinking, increased risks do not affect the remedy, because ICs are already in place to prevent those types of exposure. However, because recreational or industrial/commercial land uses were allowed at these sites, the remedy could be considered not protective. Risks based on changes in exposure factors because of civilian land use would increase recreational or commercial/industrial risks to a level exceeding the target risk goals in the ROD of 1×10^{-5}[4] for cancer and/or a hazard quotient (HQ) of 1 for noncancer chemicals. The revised risks shown in Table E-2 (Appendix E) identify only two sites, SA 76 and SWMU 23, as having a potential for recreational or occupational target health goals to be exceeded. At SA 76, a revised risk of 2×10^{-5} was calculated because of exposures of indeno(1,2,3-cd)pyrene in surface soil. At SWMU 23 a revised HQ of 1.5 was calculated for surface soil due to exposures to arsenic. The exceedances above target health goals at both sites are very slight and not likely to warrant a change in the IC for either location. For SA 76, the concentration of indeno(1,2,3-cd)pyrene in surface soil that was the risk driver is likely much lower today, because of the weathering and biodegradation of petroleum compounds. At SWMU 23, the highest detected value of arsenic was 10 mg/kg, which was well below the background value of 80 mg/kg (U.S. Navy and ADEC 2000). Based on the low

[4]This number is both the ADEC risk goal and the target risk goal established in the ROD; however, the EPA's acceptable standard risk range is from 1×10^{-4} to 1×10^{-6}.

potential exceedances above target health goals and the chemicals involved, both of these sites likely have acceptable levels of risk for recreational and residential exposures, the remedy remains protective, and no additional action is warranted.

For the water-body sites, risk-based values were selected as RGs and ICs preventing seafood ingestion were to remain in place until the ROD RGs were met. These RGs in fish and shellfish tissue were calculated assuming a 30-year exposure, and none of the other exposure parameters in the equation have changed. Therefore, the change from a military installation to a civilian community does not affect the RGs. The ingestion rates used to calculate the cleanup levels were 126 g/day for finfish and 26 g/day for shellfish and are assumed to be protective of a high fish-consuming subsistence population. Thus, the cleanup goals are appropriate and the remedies in place are protective. An ingestion rate of 152 g/day for all seafood (finfish plus shellfish) is lower than 95th percentile ingestion rates from several other subsistence populations, but is within the range of ingestion rates identified for subsistence populations of 132 to 258 g/day (ranges from Toy et al. 1996; CalEPA 2001; USEPA 1991, 1997, and 2002; and Sechena et al. 2003). Consequently, the seafood ingestion rate used in the RG calculations appears to remain appropriate in the absence of a site-specific study that identifies a significantly different value.

Sites With Possible Vapor Intrusion Pathways. Vapor intrusion was not an exposure pathway that was evaluated for all CERCLA and petroleum sites on Adak at the time of the ROD. In some cases, this pathway was evaluated, but evaluation methods have changed. Therefore, the 2010 site inspections conducted for this 5-year review included an assessment of site conditions relative to potential vapor intrusion risks. Vapor intrusion screening considered whether each site had (1) inhabited or in-use buildings, (2) currently detected concentrations of volatiles, and (3) no previous vapor intrusion evaluation.

The vapor intrusion screening identified six sites for further evaluation: Former Power Plant, Building T-1451, MAUW Compound UST 24000-A, SWMU 17, SWMU 35, SWMU 62, and Area 303. There are 16 other sites where abandoned or unused buildings are present, but no current populations would be at risk from exposure to volatile vapors. If the status of any of these the buildings were to change, the vapor intrusion pathway would need to be assessed. Furthermore, if new buildings were to be constructed above plumes of volatile contaminants, the potential for vapor intrusion would also need to be assessed.

For three of the six sites identified by the vapor intrusion screening, the potential for vapor intrusion has already been assessed or is in the process of being assessed. The vapor migration pathway for SWMU 62 was quantified in the FFS for SWMU 62, New Housing Fuel Leak for on-site workers and adult/child residents. The FFS concluded that on-site worker and child/adult residential risks to groundwater vapors were well below target health goals (U.S. Navy 2005e). The risk assessment for Area 303, which is in final process, also quantified the vapor migration pathway for the on-site worker, concluding that there was no future indoor air risk. The Area 303 residential vapor pathway was considered insignificant and incomplete. For site SWMU 17, Power Plant No. 3 Area, the vapor migration pathway was considered an incomplete pathway in the FFS (U.S. Navy 2006d).

The three sites that have not had vapor intrusion pathways assessed, but where buildings are currently in use, are MAUW Compound, UST 24000-A, Former Power Plant, Building T-1451, and SWMU 35. The MAUW Compound site status was changed to NFRAP in 2005 with ADEC concurrence (ADEC 2005a). The COC at the site is DRO. During the last groundwater monitoring round of 2002, no DRO concentration exceeded the groundwater endpoint criterion. Therefore, it is unlikely that there would ever be a vapor intrusion issue at this site from volatile contaminants in groundwater.

As discussed in Section 2, SWMU 35 is a NFA site. However, prior to conducting site inspections for this 5-year review, chemical concentrations historically detected at NFA sites were screened against the most recent ARAR values to evaluate whether or not there was a potential need to reconsider the NFA designation. Based on the screening step, SWMU 35 was included in the list of sites to be inspected and retained for further evaluation. The only volatile chemical documented at SWMU 35 that exceeds current ARARs was naphthalene in groundwater. However, the highest concentration of naphthalene in groundwater was 2.2 μg/L, which is substantially below the recommended ADEC vapor screening values for volatile chemicals in groundwater under both residential and commercial scenarios (ADEC 2009, Appendix G). The maximum concentration of naphthalene is also well below the 18 AAC 75 Table C value of 700 μg/L (0.7 mg/L) and is not a concern for drinking water. Although the maximum concentration of naphthalene did exceed the value used in screening sites for possible vapor concerns (May 2010 Regional Screening Level [RSL] of 0.14 μg/L for tap water), the screening value is not an ARAR and does not affect the protectiveness of the remedy.

The Former Power Plant, Building T-1451 is the only site of the six sites with occupied buildings that could have a potentially complete vapor intrusion pathway. However, the potential risk would be insignificant. The Former Power Plant, Building T-1451 has two buildings currently being occupied: the GEM building used for vehicle repair and storage (welding shop) and a storage shed (outbuilding) used for machine shop activities. The COC at the site is DRO. Recent soil and groundwater sampling results reported in the 2010 site characterization report and 2010 groundwater monitoring report showed exceedances of ADEC cleanup levels for DRO in both soil and groundwater. The sampling locations of the DRO exceedances are near both of the occupied buildings (U.S. Navy 2010e and 2010f).

In spite of the DRO exceedances in soil and groundwater near the Former Power Plant, the vapor intrusion risks are insignificant, because of the relatively low volatility of DRO and the high likelihood of chemical biodegradation of DRO in vapor. ADEC defines DRO as containing carbon chain lengths from C_{10} to C_{25}. Not all the carbon chain lengths from C_{10} to C_{25} are volatile; only the lighter end of the DRO compound range is considered volatile (C_{10} to C_{16}). Even if chemicals that comprise DRO were volatile, biodegradation could cause petroleum vapors to attenuate rapidly as they move away from the source (ADEC 2009). It has been shown that biodegradation will prevent vapor intrusion when the source strength is low, at least 2 feet of fine-grained sand are present, and the soil contains at least 3 percent oxygen (ADEC 2009).

Although the natural attenuation parameters in groundwater currently suggest anaerobic conditions, source concentrations in the subsurface do exhibit a decreasing trend. Eventually, it is expected that more favorable conditions for petroleum biodegradation will result as the source concentrations reduce and oxygen is replenished resulting in increasing reduction in source concentrations. Therefore, the risks and hazards associated with the vapor intrusion pathway are not expected to be significant and will continue to decrease in the future as petroleum biodegradation occurs. The remedy remains protective with regard to the vapor intrusion pathway.

Sites Selected for No Further Action

Toxicity Criteria. The toxicity criteria of chemicals that exceeded RBSCs for the OU A CERCLA sites that did not have residential risks in excess of target health goals (were not selected for further investigation in the OU A ROD) were also reviewed to identify any toxicity changes that could affect the protectiveness of the remedy. Toxicity changes were identified for Aroclor 1254, benzene, beryllium, chromium, manganese, vanadium, and 4-amino-2,6-dinitrotoluene and are presented in Table 7-8. Although the effect of some of the toxicity changes would result in higher risks from these COCs, the increased risks would be marginal and would not affect the conclusions of the risk assessments in the PSE-1 and PSE-2 for Batch 1 and Batch 2 sites. The screening processes for the Batch 1 and Batch 2 sites remain protective, and no site would now “screen-in” because of toxicity changes.

Exposure Parameters for Human Health. The process by which sites were selected for NFA during the PSEs 1 and 2 (U.S. Navy 1996a, 1996b, 1995a, and 1995b) was sufficiently health protective, such that even a five-fold increase in exposure would not result in a health risk at a site that was selected as NFA. The first step in the process involved screening maximum concentrations against EPA Region 10 residential risk-based screening concentrations (RBSCs). The Region 10 RBSCs assumed a 30-year exposure duration with a target cancer goal of 1×10^{-7} and a HQ of 0.1. The target cancer goals in the ROD were 1×10^{-5} and the target hazards were 1.0. Therefore, because the risk equations are linear, an RBSC calculated assuming a target cancer goal of 1×10^{-7} would be 100 times lower than an RBSC calculated assuming a goal of 1×10^{-5} (i.e., the larger the target risk goal, the larger the acceptable concentration), and the exposure duration matches current land uses. Consequently, any site that was selected as NFA because no chemical exceeded Region 10 RBSCs would not represent a health risk under current conditions and was appropriately designated as NFA.

For sites where maximum chemical concentrations exceeded a Region 10 screening value, a 95 percent upper confidence limit was calculated (or the maximum concentration was used if the data set was small). The value was compared first to Adak-specific residential values and then, if there were exceedances and the site was not residential, to recreational or occupational RBSCs (U.S. Navy 1996a). All risks and hazards were considered additive, and a site was only eliminated as a concern if the total risk was less than 1×10^{-6} or the total hazard was less than 1.0. As with the EPA Region 10 RBSCs, the Adak-specific RBSCs were also derived assuming a target cancer goal of 1×10^{-7} and a target hazard goal of 0.1. The use of a lower target risk goal than the ROD requires provided an adequate margin of safety to select sites, even though the exposure time may have been underestimated. Thus, sites were appropriately selected as NFA during the PSE process and no additional remedial actions is warranted.

7.3 NEW INFORMATION

Has any other information come to light that could call into question the protectiveness of the remedy? No other information, other than that discussed in other sections of this 5-year review report, has come to light that could call into question the protectiveness of the remedy.

7.4 TECHNICAL ASSESSMENT SUMMARY

The remedy is functioning as intended by the OU A ROD and the SAERA decision documents for most of the OU A sites on Adak. The remedy is not functioning as intended for the following four sites:

- Former Power Plant, Building T-1451
- SWMU 60, Tank Farm A
- SWMU 61, Tank Farm B
- NMCB Building Area, T-1416 Expanded Area

The OU B-1 remedy is functioning as intended by the OU B-1 ROD, although the remedy cannot be considered complete at all 50 OU B-1 action sites until all of the after-action reports are complete, documentation of remedy completion is finalized, and concurrence from the regulatory agencies is received.

Changes in the ARARs, exposure, and toxicity assumptions that have occurred since the RODs and SAERA decision documents were signed do not affect the protectiveness of the remedies. Concentrations of many chemicals in groundwater remain above the RGs within the downtown area of Adak at the majority of locations where long-term monitoring is occurring. This results in the need for continued ICs to prevent exposure and the need for ongoing monitoring. Although some of the RGs might be lower if selected today, the remedy components continue to protect against exposures, just as they did at the time the ROD was signed. ICs preventing exposure and ongoing monitoring will need to continue until COC concentrations in groundwater are below the RGs.

7.5 ISSUES

Table 7-9 lists the issues identified as a result of the 5-year review technical assessment of the remedies at Adak.

Table 7-1
Endpoint Criteria for Groundwater at CERCLA Sites

			Protection of Surface Water			
			State		Federal	
Analyte	**Alaska Cleanup Levels 18 AAC 75.345 (µg/L)[a]**	**Federal MCLs (µg/L)**	**Chronic**	**HH (Organisms Only) (µg/L)**	**Chronic**	**HH (Organisms Only) (µg/L)**
Benzene	5	5	--	--	--	**510**(710)
Bis(2-ethylhexyl)phthalate	6	--	--	--	--	**22** (59)
Ethylbenzene	700	700	--	**29,000** (3,280)	--	**2,100** (--)
GRO	**2,200** (1,300)	--	--	--	--	--
Lead	15	15	3.2 TR at 100 mg/L hardness	--	--	--
Methylene chloride	5	--	--	--	--	59,000
Tetrachloroethene	5	5	--	--	--	33
Thallium	2	2	--	**6.3** (48)	--	4.7
Toluene	1,000	1,000	--	**200,000** (424,000)	--	150,000
Trichloroethene	5	5	--	--	--	**300** (810)

[a]Cleanup levels shown are applicable if groundwater is a source of drinking water at the site. A concentration equal to 10 times the concentration shown may be used if Alaska Department of Environmental Conservation determines groundwater is not a current source of drinking water.

Notes:
Bolded value is the revised number, and the number in parentheses is the endpoint criterion listed in the CMP.
AAC - Alaska Administrative Code
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
HH - human health
MCLs - maximum contaminant level
µg/L - microgram per liter
mg/L - milligram per liter
TR - total recoverable

Table 7-2
Endpoint Criteria for Fresh Surface Water at SWMUs 11, 18/19, and 25

Analyte	Alaska Water Quality Standards, 18 AAC 70[a] Aquatic Life - Chronic (µg/L)	Alaska Water Quality Standards, 18 AAC 70[a] Human Health - Organisms Only (µg/L)
Semivolatile Organic Compounds		
Benzo(a)pyrene	None	**0.18**[c] (0.31[b])
Benzo(b)fluoranthene	None	**0.18**[c] (0.31[b])
Benzo(g,h,i)perylene	None	None
Benzo(k)fluoranthene	None	**0.18**[c] (0.31[b])
Bis(2-ethylhexyl)phthalate	None	**22**[c] (59[b])
Pesticides/Aroclors		
PCBs	0.014	**0.00064**[c] (0.0045[b])
Volatile Organic Compounds		
1,1-Dichloroethene	None	**None** (320)
Benzene	None	**None** (710[b])
Cis-1,2-dichloroethene	None	None
Toluene	None	**15,000** (424,000)
Trans-1,2-dichloroethene	None	**10,000** (None)
Trichloroethene	None	**300**[c] (810)
Ethylbenzene	None	**2,100** (3,280)
Total xylenes	None	None
Inorganics		
Antimony	None	**4,300** (45,000)
Arsenic	**150** (190 [As III]) dissolved	1.4[b]
Beryllium	**None** (190)	**None** (1.4)
Cadmium	**0.3 TR** (1.1 TR) at 100 mg/L hardness	None
Chromium III	**74 TR** (210 TR) at 100 mg/L hardness	None
Chromium VI	11 TR	None
Copper	**9.3 TR** (12 TR) at 100 mg/L hardness	None
Lead	2.5 TR at 100 mg/L hardness	None
Mercury	**0.77 dis** (0.012 TR)	**None** (0.15)
Nickel	**52 TR** (160 TR) at 100 mg/L hardness	**4,600** (100)
Selenium	5 TR	**4,200** (None)
Silver	None	None
Thallium	None	**0.47** (48)
Zinc	**120 TR** (110 TR) at 100 mg/L hardness	**26,000 u** (None)

[a]Criteria existing in 18 AAC 70 when Record of Decision for Operable Unit A and landfills were signed. (Changes to some of these criteria were adopted in an 18 AAC 70 amendment on March 24, 2003, but these changes are not shown in this table.)

[b] Human health criteria for carcinogens come from EPA promulgation of human health criteria for carcinogens for Alaska at the 10^{-5} risk level in the National Toxics Rule (40 CFR 131.36), in accordance with on-line Alaska Department of Environmental Conservation guidance at <www.state.ak.us/dec/dawq/wqs/documents/carcinogens.htm>, accessed April 10, 2003.

Table 7-2 (Continued)
Endpoint Criteria for Fresh Surface Water at SWMUs 11, 18/19, and 25

[c]Human health criterion came from EPA National Recommended Water Quality Criteria and are based on a carcinogenicity of 10^{-5} risk (USEPA 2009)

Notes:
Bolded value is the revised number and the number in parenthesis is the endpoint criterion listed in the Comprehensive Monitoring Plan.
EPA - U.S. Environmental Protection Agency
µg/L - microgram per liter
mg/L - milligram per liter
PCBs - polychlorinated biphenyls
TR - total recoverable

Table 7-3
Endpoint Criteria for Freshwater/Marine Sediments for SWMU 11

Analyte	CMP Endpoint Criterion (mg/kg)[a]	Basis	Current Alaska Soil Cleanup Level Table B of 18 AAC 75, Direct Contact of Soil (mg/kg)	Background From RI/FS (mg/kg)
Semivolatile Organic Compounds				
Benzo(a)anthracene	1.7	High molecular weight polynuclear aromatic hydrocarbons (Long et al. 1995)	4	--
Benzo(a)pyrene			0.4	--
Benzo(b)fluoranthene			4.0	--
Benzo(g,h,i)perylene			1,100	--
Benzo(k)fluoranthene			40	--
Indeno(1,2,3-cd)pyrene			4	--
Bis(2-ethylhexyl)phthalate	4.56	HH RBSC[b]	180	--
Pesticides/Aroclors				
Sum of PCBs as Aroclor 1016 through Aroclor 1260	0.0227	Long et al. 1995	1	--
Total Inorganics				
Antimony	2	Eco RBSC[b]	33	10 (1.5)[c]
Arsenic	8.2	Long et al. 1995	3.7	5.46 (7.5)[c]
Chromium	81	Long et al. 1995	250	12.91 (6.04)[c]
Nickel	20.9	Long et al. 1995	1,700	10.05 (5.01)[c]

[a]Total organic carbon normalization is not required for comparison to endpoint criterion.
[b]Preliminary source evaluation guidance document for Adak (U.S. Navy 1996a)
[c]The value listed is for freshwater sediment and the value in parenthesis is for marine sediment.

Notes:
AAC - Alaska Administrative Code
CMP - Comprehensive Monitoring Plan (U.S. Navy 2010a)
Eco - ecological
HH - human health
mg/kg - milligram per kilogram
RBSC - risk-based screening concentration
RI/FS - remedial investigation/feasibility study (U.S. Navy 1997)

Table 7-4
Soil and Groundwater Remediation Goals for Petroleum Sites

Chemical	Soil RGs[a]			Groundwater RGs[a,b]	
	Ingestion (mg/kg)	**Inhalation (mg/kg)**	**Migration to Groundwater (mg/kg)**	**Groundwater Cleanup Level (mg/L)**	**10 Times Groundwater Cleanup Level (mg/L)**
Acenaphthene	**2,300** (5,000)	NA	190	2.2	22
Anthracene	**16,800** (24,900)	NA	3,900	11	110
Antimony	33	NA	3	0.006	0.06
Aroclor 1254	1	1	1	0.0005	0.005
Aroclor 1260	1	1	1	0.0005	0.005
Benzene	120	**8.5** (6.4)	0.02	0.005	0.05
Benzo(a)anthracene	**4** (9)	NA	**3.6** (5.5)	0.001	0.01
Benzo(b)fluoranthene	**4** (9)	NA	17	0.001	0.01
Benzo(k)fluoranthene	**40** (93)	NA	**120** (170)	0.01	0.1
Benzo(a)pyrene	**0.4** (0.9)	NA	**2.1** (2.4)	0.0002	0.002
Bis(2-ethylhexyl)phthalate	**180** (490)	NA	**13** (1,100)	0.006	0.06
Chrysene	**400** (930)	NA	550	0.1	1
Dibenzo(a,h)anthracene	**0.4** (0.9)	NA	**4** (5)	0.0001	0.001
DRO	8,250	12,500	230	1.5	15
Ethylbenzene	8,300	**81** (89)	**5** (6.9)	0.7	7
Fluorene	**1,900** (3,300)	NA	**220** (240)	1.46	14.6
GRO	1,400	1,400	260	**2.2** (1.3)	**22** (13)
Indeno(1,2,3-cd)pyrene	9	NA	50	0.001	0.01
Lead	**400**(NA)	**400**(NA)	NA	0.015	0.15
Mercury	**25** (NA)	13	**1.4** (1.24)	0.002	0.02
Naphthalene	**1,100** (1,700)	**21** (92)	**20** (19)	**0.7** (1.46)	**7** (14.6)
Phenathrene	**16,800** (NA)	NA	**3000** (NA)	**11** (NA)	**1,100** (NA)

Table 7-4 (Continued)
Soil and Groundwater Remediation Goals for Petroleum Sites

	Soil RGs[a]			Groundwater RGs[a,b]	
Chemical	**Ingestion (mg/kg)**	**Inhalation (mg/kg)**	**Migration to Groundwater (mg/kg)**	**Groundwater Cleanup Level (mg/L)**	**10 Times Groundwater Cleanup Level (mg/L)**
Pyrene	**2,500** (1,100)	NA	**1,000** (1,400)	1.1	11
RRO	8,300	22,000	9,700	1.1	11
Toluene	**6,600** (17,000)	**220** (180)	**6.5** (4.8)	1	10
Xylenes (total)	**16,600** (166,000)	**63** (81)	**63** (69)	10	100

[a]Based on 18 AAC 75.340, 341, and 345
[b]Alaska Department of Environmental Conservation's 2009 revisions to its cleanup regulations have removed the provision for the "10 times" rule from the groundwater cleanup regulations, previously 18 AAC 75.345[b][2]. Therefore, none of the RG values listed in this column would be the same if established today.

Notes:
Bolded value is the revised number, and the number in parenthesis is the RG from the ROD.
AAC - Alaska Administrative Code
AK - Alaska
DRO - diesel-range organics (per Method AK 102)
GRO - gasoline-range organics (per Method AK 101)
mg/kg - milligram per kilogram
mg/L - milligram per liter
NA - not available
RGs - remediation goals
RRO - residual-range organics (per Method AK 103)

Table 7-5
Site-Specific Alternative Cleanup Levels for Free-Product Sites

Chemical	Site-Specific ACL for Soil (mg/kg)[a]	Basis for Soil[a]	Site-Specific ACL for Groundwater (mg/L)	Basis for Groundwater[b]	Site-Specific ACL for Surface Water (mg/L)	Basis for Surface Water	Site-Specific ACL for Sediment (mg/kg)	Basis for Sediment
NMCB Building Area, T-1416 Expanded Area								
Diesel-range organics	31,000	18 AAC 75.340(a)(4)	15	10 times 18 AAC 75.345(b)(1)	--	--	--	--
Gasoline-range organics	1,700	18 AAC 75.340(a)(4)	22 (13)	10 times 18 AAC 75.345(b)(1)	--	--		
Benzene	--	--	0.05	10 times 18 AAC 75.345(b)(1)	--	-- --	--	
Lead	--	--	0.15	10 times 18 AAC 75.345(b)(1)	--	-- --	--	
SWMU 62, New Housing Fuel Leak								
Diesel-range organics	6,111	18 AAC 75.340(a)(4)	1.5	18 AAC 75.345(b)(1)	--	-- --	-- --	--
Gasoline-range organics	--	--	2.2 (1.3)	18 AAC 75.345(b)(1)	--	--		
Benzene	--	--	0.005	18 AAC 75.345(b)(1)	--	--	--	--

-- --

Table 7-5 (Continued)
Site-Specific Alternative Cleanup Levels for Free-Product Sites

Chemical	Site-Specific ACL for Soil (mg/kg)[a]	Basis for Soil[a]	Site-Specific ACL for Groundwater (mg/L)	Basis for Groundwater[b]	Site-Specific ACL for Surface Water (mg/L)	Basis for Surface Water	Site-Specific ACL for Sediment (mg/kg)	Basis for Sediment
Ethylbenzene	--	--	0.7	18 AAC 75.345(b)(1)	--	--	--	--
Toluene	--	--	1	18 AAC 75.345(b)(1)	--	--	--	--
Trichloroethene	--	--	0.005	18 AAC 75.345(b)(1)	--	--	--	--
South of the Runway 18-36 Area								
Diesel-range organics	--	--	15	10 times 18 AAC 75.345(b)(1)	0.00025	Eco RBSC[c] (PQL)	90.6	Eco RBSC[c]
Gasoline-range organics	--	--	--	--	0.114	Eco RBSC	12.2	Eco RBSC[c]
Indeno(1,2,3-cd)pyrene	--	--	--	--	0.00028	Eco RBSC	--	--
TAH	--	--	--	--	0.01	18 AAC.70	--	--
TAqH	--	--	--	--	0.015	18 AAC.70	--	--
2-Methylnaphthalene	--	--	--	--	--	--	0.0202	Eco RBSC[c]
Phenanthrene	--	--	--	--	--	--	0.225	Eco RBSC[c]
SWMU 17, Power Plant No. 3								
Diesel-range organics	--	--	15	10 times 18 AAC 75.345(b)(1)	--	--	--	--

Table 7-5 (Continued)
Site-Specific Alternative Cleanup Levels for Free-Product Sites

[a]Soil cleanup levels based on Alaska Department of Environmental Conservation Method Four, a calculated risk value discussed in the text.
[b]Cleanup levels are based on 10 times the tabulated groundwater cleanup levels because groundwater is not reasonably expected to be a potential source of drinking water, or the full tabulated value if groundwater is considered to be a reasonably expected potential source of drinking water.
[c]If the PQL was lower than the ecological risk based cleanup level, the cleanup level was set to the PQL.

Notes:
Bolded chemical has new groundwater cleanup level; old value is in parenthesis.
AAC - Alaska Administrative Code
ACL - alternative cleanup level
Eco - ecological
mg/L - milligram per liter
mg/kg - milligram per kilogram
PQL - practical quantitation limit
RSBC - risk-based screening concentration
TAH - total aromatic hydrocarbons
TAqH - total aqueous hydrocarbons

1 **Table 7-6**
2 **Summary of Adak No Further Action Sites With Soil Exceedances of Current Migration-to-Groundwater ARARs**

Site Name	Chemical Exceeding Current ARAR	Maximum Value Detected (mg/kg)	ARAR Value[a] (mg/kg)	Detection Frequency	Total No. Samples	No. of Exceedances	Greater Than 2 X Cleanup Level	Greater Than 10% F of E	Greater Than Background Level[b]
Petroleum Sites									
Drum Disposal Area at Tank Farm D	Lead	103	40	2/2	2	1	Yes	Yes	Yes
Navy Exchange Building (UST 30033)	Benzene	0.501	0.025	3/17	17	2	Yes	Yes	NA
	Xylenes, Total	39.6	6.3	2/2	2	1	Yes	Yes	NA
NSGA Filling Station, Mogas and JP-5 ASTs	Xylenes, Total	38	6.3	2/4	4	1	Yes	Yes	NA
Pumphouse 5 Area - Pipeline C	Lead	402	40	11/11	11	7	Yes	Yes	Yes
SWMU 12, Quartermaster Site	Lead	212	40	14/21	21	3	Yes	Yes	Yes
SA 87, Old Zeto Point Wizard Station	Benzo(a)pyrene	0.3	0.04	1/9	9	1	Yes	Yes	NA
SA 86, Old Happy Valley Child Care Center	Lead	269	40	32/32	32	4	Yes	Yes	Yes
SA 84, Sand Shed	Lead	135	40	6/6	6	1	Yes	Yes	Yes
SWMU 24, Hazardous Waste Container Storage Facility (Evaluated under RCRA)	Chromium, Total	55.8	25	25/26	26	4	Yes	Yes	Yes
	Vanadium	140	58	24/24	24	23	Yes	Yes	Yes
SWMU 35,Ground Support Equipment Building (UST 27044)	Xylenes, Total	75	6.3	3/5	5	2	Yes	Yes	NA

Table 7-6 Continued)
Summary of Adak No Further Action Sites With Soil Exceedances of Current Migration-to-Groundwater ARARs

Site Name	Chemical Exceeding Current ARAR	Maximum Value Detected (mg/kg)	ARAR Value[a] (mg/kg)	Detection Frequency	Total No. Samples	No. of Exceedances	Greater Than 2 X Cleanup Level	Greater Than 10% F of E	Greater Than Background Level[b]
Mount Moffett Power Plant 5 Tank Farm B, Tank Farm C	Lead	2210	40	66/70	70	10	Yes	Yes	Yes
(USTs 10574 Through 10577)	Benzo(a)pyrene	0.53	0.04	1/2	2	1	Yes	Yes	NA
	Benzo(b)fluoranthene	0.82	0.4	1/2	2	1	Yes	Yes	NA
	Naphthalene	42	3.6	2/2	2	2	Yes	Yes	NA
CDAA Complex (UST 10580)	Arsenic	100.8	0.37	38/49	49	38	Yes	Yes	Yes
UST 10591 - NSGA	Lead	187.1	40	42/52	52	7	Yes	Yes	Yes
UST 31051-A O-59	Benzo(a)pyrene	0.16	0.04	2/6	6	2	Yes	Yes	NA
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sites									
SA 77, Fuel Division Area Drum Storage	Chromium, Total	78.3	25	10/10	10	6	Yes	Yes	Yes

[a]Alaska Table B1, Method Two Soil Cleanup Levels (January 2009): Migration to Groundwater
[b]Maximum detected values were compared to background values listed in Table 4-2 of the background study report (U.S. 1995c).

Notes:
ARAR - applicable or relevant and appropriate requirement
F of E - frequency of exceedance
mg/kg - milligram per kilogram
NA - not applicable

Table 7-7
OU B-1 ROD Soil Cleanup Levels for Ordnance Compounds

Chemical	ROD-Specified Cleanup Level (mg/kg)	Current Cleanup Level (mg/kg)
Dinitrotoluene (mixture)	0.72	0.72
2,4,6-Trinitrotoluene	18	**19**
Nitroglycerin	35	**6.1**
Nitroguanidine	6100	6100
Tetryl (trinitrophenylmethylnitramine)	610	**240**
RDX (cyclonite)	4.4	**5.5**

Notes:
Bolded values have changed.
Values are 2010 Regional Screening Values.
mg/kg - milligram per kilogram
ROD - Record of Decision

Table 7-8
Toxicity Changes for No Further Action Sites

Chemical of Concern	Toxicity Criteria	OU A ROD Value[a] (Unit of Measure)	Current Value (Unit of Measure)
Vanadium	Oral RfD	7.00 E-03 (mg/kg-day)	5.00 E-03 (mg/kg-day)
Benzene	Oral CSF	2.90 E-02 $(mg/kg\text{-}day)^{-1}$	5.50 E-02 $(mg/kg\text{-}day)^{-1}$
Chromium VI[b]	Oral RfD	5.00 E-03 (mg/kg-day)	3.00 E-03 (mg/kg-day)
Aroclor 1254	Oral CSF	7.00 E+00 $(mg/kg\text{-}day)^{-1}$	2.00 E+00 $(mg/kg\text{-}day)^{-1}$
Aroclor 1260	Oral CSF	7.00 E+00 $(mg/kg\text{-}day)^{-1}$	2.00 E+00 $(mg/kg\text{-}day)^{-1}$
Beryllium	Oral RfD	5.00 E-03 (mg/kg-day)	2.00 E-03 (mg/kg-day)
4,Amino-2,6-dinitrotoluene	Oral RfD	1.00 E-03 (mg/kg-day)	2.00 E-03 (mg/kg-day)
Manganese	Inhalation RfD	1.10 E-04 (mg/kg-day)	5.50 E-0 5(mg/kg-day)

[a]The ROD values for the no further action sites are based on the PSE-1 and PSE-2 risk analysis from 1995 and 1996.
[b]Chromium VI now has an Oral CSF of 5.0E-01.

Notes:
Bolded chemical would have a slightly higher hazard or risk if calculated today.
CSF - cancer slope factor
mg/kg-day - milligram per kilogram per day
OU - operable unit
PSE - preliminary source evaluation
RfD - reference dose
ROD - Record of Decision

Table 7-9
Issues

No.	Issue	Affects Protectiveness? Current	Affects Protectiveness? Future
Sitewide			
1	The Comprehensive Monitoring Plan, Institutional Control Management Plan, and Operation and Maintenance Plan need to be updated to reflect site-by-site changes in monitoring and product recovery requirements recommended in this document and by the Optimization Work Group, to formalize institutional control requirements pertaining to the continued presence of petroleum-contaminated soil at some sites, to remove inconsistencies, to ensure that the criteria for free-product monitoring and recovery are clear and driven by decision documents, and to result in free-product monitoring and recovery documentation that is sufficiently detailed to allow independent review.	Yes	Yes
2	The document repositories on Adak and in Anchorage are incomplete, especially with regard to recent documents generated during this 5-year review period.	No	No
3	Action items were identified during the 2010 site inspections.	Yes	Yes
4	Organizations involved in responding to MEC finds have requested materials detailing the procedures for local officials to follow in the event of a MEC discovery, the organization responsible for responding based on the location of the MEC item found, and the historical MEC recoveries across the island.		
OU A – SAERA Petroleum Sites			
5	Former Power Plant, Building T-1451, or a nearby source yet to be identified, is impacting surface water quality in East Canal.	Yes	Yes
6	Groundwater samples collected from SWMU 60, Tank Farm A, wells near South Sweeper Creek contained total aromatic hydrocarbon and total aqueous hydrocarbon concentrations that exceeded Alaska Department of Environmental Conservation surface water criteria, and seeps and sheens have been observed along South Sweeper Creek and Sweeper Creek Lagoon.	Yes	Yes
7	Free-product thickness measurements in three surface water protection wells at NMCB Building Area appear to be increasing, indicating that the remedy may not functioning as intended and additional investigation is warranted.	Yes	Yes

Notes:
MEC - munitions and explosives of concern
OU - operable unit
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit

8.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

This section presents the recommendations and follow-up actions identified as a result of the 5-year review process. Table 8-1 summarizes the recommendations. In general, the recommendations focus on improving the remedy functionality for three of the OU A sites, documenting and closing out the completed remedy implementation at some OU B-1 sites, and continuing to improve ordnance awareness training materials and communication with the public and other stakeholders.

Table 8-1
Recommendations and Follow-Up Actions

No.	Recommendation/Follow-Up Action	Oversight Agency	Milestone Date	Follow-Up Action: Affects Protectiveness	
				Current	**Future**
Sitewide					
1	As part of the current Optimization Work Group effort for optimization of monitoring and product recovery on Adak, update the Comprehensive Monitoring Plan and Operation and Maintenance Plan to address the items listed in Issue No. 1 on Table 7-9 and as detailed in Sections 4.1.4 and 6.4. In addition, update the Institutional Control Management Plan (and its equivalent to Table 4-1 of this 5-year review) to be consistent with source documentation (executed RODs, decision documents, and conditional closure letters).	ADEC	12/31/2011	Yes	Yes
2	Update the document repositories.	EPA, ADEC	12/31/2011	No	No
3	Address the action items identified during the 2010 site inspections (see Section 6.5).	EPA, ADEC	12/31/2012	Yes	Yes
4	Create a munitions response desk guide for limited distribution (see Section 6.2.3).	EPA, ADEC	12/31/2011	No	No
OU A – SAERA Petroleum Sites					
5	Complete the ongoing assessment of additional remedial action at Former Power Plant, Building T-1451.	ADEC	12/31/2013	Yes	Yes
6	Complete the ongoing evaluation of potential additional action for SWMU 60, Tank Farm A, based on impacts to South Sweeper Creek.	ADEC	12/31/2012	Yes	Yes
7	Evaluate additional actions to protect surface water at NMCB Building Area in accordance with the decision document.	ADEC	12/31/2012	Yes	Yes

Notes:
ADEC - Alaska Department of Environmental Conservation
EPA - U.S. Environmental Protection Agency
OU - operable unit
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit

9.0 CERTIFICATION OF PROTECTIVENESS

9.1 PROTECTIVENESS OF OU A REMEDIES

The OU A sites are grouped in the sections below for the purposes of discussing protectiveness.

9.1.1 OU A Sites Where the Remedy Is Complete and Protective

The OU A remedy remains protective for the sites selected for NFA or NFRAP and sites where the remedy is complete, but an NFA/NFRAP designation has not been made (such as South Sweeper Creek) (Table 9-1). At these sites, the NFA status selected in the ROD, the NFA/NFRAP status selected in later documents, or the completeness of the remedy are not called into question by new information, including changes in ARARs or risk assessment assumptions. ICs still apply to some of these sites because of their location within the downtown area, where area-wide LUCs apply. The three OU A sites that achieved NFA or NFRAP status during this 5-year review period will not be discussed in detail in the next 5-year review. These three sites are the following:

- SA 77, Fuel Division Area Drum Storage
- SA 82, NSGA P80, P81 Buildings
- Yakutat Hangar, UST T-2039-A

9.1.2 OU A Sites Where the Remedy Is Operating and Expected to Be Protective

The OU A remedy for the sites listed in Table 9-2 is expected to be protective when the operating OU A remedy (monitored natural attenuation in many cases) is complete. In the interim, exposure pathways that could result in unacceptable risks are being controlled through implementation of the ICMP. Potential changes in site conditions that could affect protectiveness at these sites are also being monitored and evaluated through the annual groundwater monitoring program. Through this program, the ongoing natural attenuation of COCs is documented, and surface water protection wells are monitored to allow evaluation of COC migration and thereby ensure the protection of surface water. Free-product thickness is monitored at sites where free product has been or could be a concern, and the monitoring protocols include free-product removal when sufficient product thickness is measured.

For certain sites, such as those with landfill caps, ICs are an integral component of the remedy in perpetuity (e.g., excavation through a landfill cap is not expected to ever be permissible). For these sites, the IC component of the remedy is protective and is expected to remain so as long as the ICs are maintained, with documentation via annual inspections.

9.1.3 OU A Sites Where the Remedy Is Not Protective Unless Followup Actions Are Taken to Ensure Protectiveness

At two of the sites where the OU A remedy consists of monitored natural attenuation, ongoing impacts to adjacent surface water bodies calls into question the protectiveness of the remedy. Follow-up actions are needed at the two sites listed below for the remedy to be protective:

- Former Power Plant, Building T-1451
- SWMU 60, Tank Farm A

At one of the OU A sites where the final remedy was selected under SAERA, NMCB Building Area, T-1416 Expanded Area, trends in product thicknesses observed in surface water protection wells call into question the protectiveness of the remedy. Follow-up actions are needed at this site for the final remedy to be protective.

9.2 PROTECTIVENESS OF OU B-1 REMEDY

The remedy for OU B-1 is expected to be protective of human health and the environment upon completion. Although the remedy is in place at all OU B-1 sites, regulatory concurrence has not been achieved for all sites. Until concurrence is achieved and the remedies can be considered complete, ICs are in place to control exposure pathways that could result in unacceptable risks. Documentation of completion of the OU B-1 remedy at all OU B-1 sites, as well as documentation of regulatory concurrence with remedy completion, will be assembled in the remedial action completion report. This information will be drawn from the final after action reports.

9.3 PROTECTIVENESS OF OU B-2 REMEDY

The remedy for OU B-2 has not been selected. In the interim, LUCs are in place to control exposure pathways that could result in unacceptable risks to human health and the environment.

Table 9-1
OU A Sites Where the Remedy Is Complete

Site	Regulatory Authority	Regulatory Designation	Timing of Regulatory Designation
CERCLA Sites			
South Sweeper Creek	CERCLA	Remedy complete	Post-first 5-year review
SWMU 3, Clam Lagoon Landfill	CERCLA	NFA	OU A ROD
SWMU 5, North Davis Road Landfill	CERCLA	NFA	OU A ROD
SWMU 6, Andrew Lake Drum Disposal Area 1	CERCLA	NFA	OU A ROD
SWMU 7, Andrew Lake Drum Disposal Area 2	CERCLA	NFA	OU A ROD
SWMU 9, Black Power Club	CERCLA	NFA	OU A ROD
SWMU 21B, White Alice Lower Quarry	CERCLA	NFA	OU A ROD
SWMU 21C, White Alice East Disposal Area	CERCLA	NFA	OU A ROD
SWMU 24, Hazardous Waste Storage Facility — RCRA Closure under FFCA	RCRA	NFA	OU A ROD
SWMU 26, Mitt Lake Drum Disposal Area	CERCLA	NFA	OU A ROD
SWMU 27, Lake Leone Drum Disposal Area	CERCLA	NFA	OU A ROD
SWMU 28, Lake Betty Drum Disposal Area	CERCLA	NFA	OU A ROD
SWMU 30, Magazine 4 Landfill	CERCLA	NFA	OU A ROD
SWMU 42, GSE Steam Clean Oil/Water Separator	CERCLA	NFA	OU A ROD
SWMU 43, AIMD Acid Battery Storage Area	CERCLA	NFA	OU A ROD
SWMU 51, NSGA Transportation Bldg. 10354 Waste Storage Area	CERCLA	NFA	OU A ROD
SWMU 54, NMCB Battery Storage	CERCLA	NFA	OU A ROD
SWMU 65, Contractor's Camp Fire/Demolition Site	CERCLA	NFA	OU A ROD
SWMU 66, Palisades Lake PCB Spill	CERCLA	NFA	OU A ROD
SWMU 68, New Pesticide Storage Area	CERCLA	NFA	OU A ROD
SWMU 69, Ski Lodge Waste Pile	CERCLA	NFA	OU A ROD
SWMU 70, Davis Road Asphalt Drums	CERCLA	NFA	OU A ROD
SWMU 71, NSGA Fueling Facility	CERCLA	NFA	OU A ROD
SWMU 72, NSGA Transportation Building 10354	CERCLA	NFA	OU A ROD
SWMU 74, Old Batch Facility[a]	CERCLA	NFA	OU A ROD
SA 75, Asphalt Storage Area	CERCLA	NFA	OU A ROD
SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area	RCRA	NFA	OU A ROD
SA 83, Former Chiefs Club Station	CERCLA	NFA	OU A ROD
SA 90, Husky Road Landfill	CERCLA	NFA	OU A ROD
SA 91, Airplane Crash Sites	CERCLA	NFA	OU A ROD
SA 92, Waste Ordnance Pile (Fin Field)	CERCLA	NFA	OU A ROD
SA 94, Chemical Weapons Disposal Area	CERCLA	NFA	OU A ROD
SA 95, Transformer Disposal Area	CERCLA	NFA	OU A ROD
Clam Lagoon	CERCLA	NFA	OU A ROD

Table 9-1 (Continued)
OU A Sites Where the Remedy Is Complete

Site	Regulatory Authority	Regulatory Designation	Timing of Regulatory Designation
CERCLA Sites (Continued)			
Andrew Lake	CERCLA	NFA	OU A ROD
Petroleum Sites			
Administration Building (UST 30004-A)	SAERA	NFA	OU A ROD
Amulet Housing, Well AMW-706 Area	SAERA	NFRAP	Post-first 5-year review
Amulet Housing, Well AMW-709 Area	SAERA	NFRAP	Post-first 5-year review
Armory (UST 10311-A)	SAERA	NFA	OU A ROD
Artillery Battalion (USTs ART-1 and ART-2)	SAERA	NFA	OU A ROD
ASR-8 Facility (UST 42007-B)	SAERA	NFA	Post-second 5-year review
Bering Chapel (UST 42090-A)	SAERA	NFA	OU A ROD
Boy Scout Camp, West Haven Lake (UST BS-1)	SAERA	NFRAP	Post-first 5-year review
Boy Scout Camp, South Haven Lake (UST BS-2)	SAERA	NFA	OU A ROD
CDAA Complex (USTs 10580 and 10654)	SAERA	NFA	OU A ROD
Clam Road Truck Fill Stand	SAERA	NFA	OU A ROD
Cold Storage Facility (AST T-1440)	SAERA	NFA	OU A ROD
Contractor’s Camp Burn Pad	SAERA	NFRAP	Post-first 5-year review
Contractor’s Pad UST T-1706 (Navy Pad)	SAERA	NFA	OU A ROD
Drum Disposal Area at Tank Farm D	SAERA	NFA	OU A ROD
Elementary School (UST 42017-A)	SAERA	NFA	OU A ROD
Finger Bay Quonset Hut, UST FBQH-1	SAERA	NFRAP	Post-first 5-year review
Girl Scout Camp (UST GS-1)	SAERA	NFA	Post-first 5-year review
Housing Outfall Area (Sandy Cove)	SAERA	NFA	OU A ROD
Kuluk Housing (UST HST-6C)	SAERA	NFA	OU A ROD
Kuluk Recreation Center (UST 30034)	SAERA	NFA	OU A ROD
Line Crew Building (USTs 2776, 2776-B, and 2776-C)	SAERA	NFA	OU A ROD
Loran Station (USTs V149A, V149B, and V149C)	SAERA	NFA	OU A ROD
MAUW Compound (UST 24000-A)	SAERA	NFRAP	Post-first 5-year review
MAUW Compound (UST 24032-B)	SAERA	NFA	OU A ROD
McDonald’s UST	SAERA	NFA	OU A ROD
Medical Center (UST 27088)	SAERA	NFA	OU A ROD
Mount Moffett Power Plant 5 (Used Oil AST)	SAERA	NFA	OU A ROD
Mount Moffett Power Plant 5 (Used Oil Pit)	SAERA	NFA	OU A ROD
Mount Moffett Power Plant 5 (USTs 10574 through 10577)	SAERA	NFRAP	Post-first 5-year review
Mount Moffett Tower (Mogas AST and Used Oil AST)	SAERA	NFA	OU A ROD
NAVFAC Compound (USTs 20052 and 20053)	SAERA	NFRAP	Post-first 5-year review
Navy Exchange Building (UST 30026)	SAERA	NFA	OU A ROD
Navy Exchange Building (UST 30027-A)	SAERA	NFRAP	Post-first 5-year review

Table 9-1 (Continued)
OU A Sites Where the Remedy Is Complete

Site	Regulatory Authority	Regulatory Designation	Timing of Regulatory Designation
Petroleum Sites (Continued)			
Navy Exchange Building (UST 30033)	SAERA	NFA	OU A ROD
New Roberts Housing, UST HST-7C	SAERA	NFRAP	Post-first 5-year review
New Transportation Building (O/W 10644)	SAERA	NFA	OU A ROD
New Transportation Building (UST 10590)	SAERA	NFA	OU A ROD
New Transportation Building (UST 10591)	SAERA	NFA	OU A ROD
NSGA Filling Station, Mogas and JP-5 ASTs	SAERA	NFA	OU A ROD
Officer Hill and Amulet Housing, UST 31047-A	SAERA	NFRAP	Post-first 5-year review
Officer Hill and Amulet Housing (UST 31049-A)	SAERA	NFA	Post-first 5-year review
Officer Hill and Amulet Housing (UST 31050-A)	SAERA	NFA	OU A ROD
Officer Hill and Amulet Housing (UST 31051-A)	SAERA	NFA	OU A ROD
Officer Hill and Amulet Housing (UST 31052-A)	SAERA	NFRAP	Post-first 5-year review
Officer Hill and Amulet Housing (UST 31053-A)	SAERA	NFA	OU A ROD
Old Fuel Truck Shop (UST 10520-A)	SAERA	NFA	OU A ROD
Old Fuel Truck Shop (UST 10520-B)	SAERA	NFA	OU A ROD
Pantograph Pad (UST RT-1)	SAERA	NFA	OU A ROD
Pumphouse 5 Area	SAERA	NFA	OU A ROD
Quarters A (UST 42200)	SAERA	NFA	Post-first 5-year review
ROICC Contractor's Area (UST ROICC-5)	SAERA	NFA	OU A ROD
ROICC Contractor's Area (UST ROICC-6)	SAERA	NFA	OU A ROD
ROICC Contractor's Area (UST ROICC-8)	SAERA	NFRAP	Post-first 5-year review
ROICC Warehouse (UST ROICC-1)	SAERA	NFA	OU A ROD
ROICC Warehouse (UST ROICC-2)	SAERA	NFRAP	Post-first 5-year review
ROICC Warehouse (UST ROICC-3)	SAERA	NFRAP	Post-first 5-year review
ROICC Warehouse (UST ROICC-4)	SAERA	NFA	OU A ROD
SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area	SAERA	NFRAP	Post-second 5-year review
SA 81, Gun Turret Hill	SAERA	NFA	OU A ROD
SA 82, NSGA P80, P81 Buildings	CERCLA	NFRAP	Post-second 5-year review
SA 84, Sand Shed	SAERA	NFA	OU A ROD
SA 85, New Baler Building	SAERA	NFA	OU A ROD
SA 86, Old Happy Valley Child Care Center	SAERA	NFA	OU A ROD
SA 87, Old Zeto Point Wizard Station	SAERA	NFA	OU A ROD
SA 89, Tank Farm C	SAERA	NFA	OU A ROD
SA 96, NORPAC Hill Debris Site	SAERA	NFA	OU A ROD
SA 97, Generator Debris Site	SAERA	NFA	OU A ROD
Sewage Life Station 10 (UST 42483-A)	SAERA	NFA	OU A ROD
Sewage Lift Station 11 (UST 42484-A)	SAERA	NFA	OU A ROD
Shack O-52 (UST O-52)	SAERA	NFA	OU A ROD
Shack 0-69 (UST B)	SAERA	NFA	OU A ROD

Table 9-1 (Continued)
OU A Sites Where the Remedy Is Complete

Site	Regulatory Authority	Regulatory Designation	Timing of Regulatory Designation
Petroleum Sites (Continued)			
South Avgas Pipeline at North Sweeper Creek	SAERA	NFA	OU A ROD
SWMU 1, Andrew Lake OB/OD and Range	SAERA	NFA	OU A ROD
SWMU 12, Quartermaster Road Debris Disposal Area	SAERA	NFA	OU A ROD
SWMU 22, Avgas Drum Storage Area South of Tank Farm 1	SAERA	NFA	OU A ROD
SWMU 24, Hazardous Waste Storage Facility	SAERA	NFA	OU A ROD
SWMU 31, Runway 18-36 Aviation Gas Drum Disposal	SAERA	NFA	OU A ROD
SWMU 34, Steam Plant 4 Used Oil AST	SAERA	NFA	OU A ROD
SWMU 35, Ground Support Equipment Building	SAERA	NFA	OU A ROD
SWMU 41, GSE Used Oil Storage Area	SAERA	NFA	OU A ROD
SWMU 44, AIMD Used Oil Storage Area	SAERA	NFA	OU A ROD
SWMU 45, Sewage Treatment Plan Petroleum Contamination (including SWMUs 46 through 50)	SAERA	NFA	OU A ROD
SWMU 55, Public Works Transportation Department Waste Storage Area	SAERA	NFA	OU A ROD
SWMU 56, Public Works Transportation Department Storage Tank	SAERA	NFA	OU A ROD
SWMU 57, Fuels Facility Refueling Dock	SAERA	NFA	OU A ROD
SWMU 64, Tank Farm D	SAERA	NFA	OU A ROD
SWMU 74, Old Batch Facility[a]	SAERA	NFA	OU A ROD
Tango Pad Spill Area	SAERA	NFA	Post-second 5-year review
Telephone Exchange Building (UST 10324-A)	SAERA	NFA	OU A ROD
Telephone Substation T-100 (UST T-100-B)	SAERA	NFA	OU A ROD
TFB to TFC Pipeline—Area A	SAERA	NFA	OU A ROD
TFB to TFC Pipeline—Area B	SAERA	NFA	OU A ROD
TFB to TFC Pipeline—Area C	SAERA	NFA	OU A ROD
TFB to TFC Pipeline—Area D	SAERA	NFA	OU A ROD
TFB to TFC Pipeline—Area E (Truck Fill Stand)	SAERA	NFA	OU A ROD
TFB to TFC Pipeline—Area F	SAERA	NFA	OU A ROD
TFB to TFC Pipeline—Area G	SAERA	NFA	OU A ROD
TFC to NSGA Pipeline—Area A	SAERA	NFA	OU A ROD
TFC to NSGA Pipeline—Area B	SAERA	NFA	OU A ROD
TFC to NSGA Pipeline—Area C	SAERA	NFA	OU A ROD
TFC to NSGA Pipeline—Area D	SAERA	NFA	OU A ROD
TFC to NSGA Pipeline—Area E	SAERA	NFA	OU A ROD

Table 9-1 (Continued)
OU A Sites Where the Remedy Is Complete

Site	Regulatory Authority	Regulatory Designation	Timing of Regulatory Designation
Petroleum Sites (Continued)			
USGS (NOAA) Building (USTs NOAA-A, -C, and -D)	SAERA	NFA	OU A ROD
Yakutat Hangar, USTs T-2039-B and T-2039-C	SAERA	NFRAP	Post-first 5-year review
Yakutat Hangar, UST T-2039-A	SAERA	NFRAP	Post-second 5-year review

[a]SWMU 74, Old Batch Facility is included as a no further action site for both CERCLA and petroleum.

Notes:
AIMD - Aircraft Intermediate Maintenance Detachment
AST - aboveground storage tank
avgas - aviation gasoline
CDAA - circular disposed antenna array
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
FFCA - Federal Facilities Compliance Agreement
GSE - ground support equipment
JP-5 - jet petroleum No. 5
loran - long-range navigation
MAUW - modified advanced underwater weapons
mogas - motor gasoline
NFA - no further action
NFRAP - no further remedial action planned
NMCB - Naval Mobile Construction Battalion
NOAA - National Oceanic and Atmospheric Administration
NORPAC - North Pacific
NSGA - Naval Security Group Activity
OU - operable unit
RCRA - Resource Conservation and Recovery Act
ROICC - resident officer in charge of construction
SA - source area
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit
TFB - Tank Farm B
TFC - Tank Farm C
USGS - U.S. Geological Survey
UST - underground storage tank

Table 9-2
OU A Sites Where the Remedy Is Operating and Expected to Be Protective

Site Name	Regulatory Authority	Operating Remedy
Antenna Field, USTs ANT-1, ANT-2, ANT-3, and ANT-4	SAERA	MNA/IC
Former Power Plant, Building T-1451	SAERA	MNA/IC
GCI Compound, UST GCI-1	SAERA	MNA/IC
Housing Area (Arctic Acres)	SAERA	MNA/IC
Kuluk Bay	CERCLA	MTM/IC
NORPAC Hill Seep Area	SAERA	LM
ROICC Contractor's Area, UST ROICC-7	SAERA	LM/MNA
Runway 5-23 Avgas Valve Pit	SAERA	MNA/IC
SA 76, Old Line Shed Building	CERCLA	IC
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	SAERA	MNA/ /IC
SA 79, Main Road Pipeline	CERCLA, SAERA	LM
SA 80, Steam Plant 4, USTs 27089 and 27090	SAERA	MNA/IC
SA 88, P-70 Energy Generator, UST 10578	SAERA	LM
Sweeper Cove	CERCLA	MTM/IC
SWMU 2, Causeway Landfill	CERCLA	IC
SWMU 4, South Davis Road Landfill	CERCLA	IC
SWMU 10, Old Baler Building	CERCLA	IC
SWMU 11, Palisades Landfill	CERCLA	PCM/IC
SWMU 13, Metals Landfill	CERCLA	PCM/IC
SWMU 14, Old Pesticide Disposal Area	CERCLA, SAERA	MNA/CGWM/IC
SWMU 15, Future Jobs/DRMO	CERCLA, SAERA	MNA/CGWM/IC
SWMU 16, Former Firefighting Training Area	CERCLA	IC
SWMU 17, Power Plant 3		
SWMUs 18/19, White Alice Landfill	ADEC solid waste regulations	PCM/IC
SWMU 20, White Alice/Trout Creek Disposal Area	CERCLA	IC
SWMU 21A, White Alice Upper Quarry	CERCLA	IC
SWMU 23, Heart Lake Drum Disposal Area	CERCLA	IC
SWMU 24, Hazardous Waste Storage Facility	RCRA	IC
SWMU 25, Roberts Landfill	ADEC solid waste regulations	PCM/IC
SWMU 29, Finger Bay Landfill	CERCLA	IC
SWMUs 52, 53, and 59, Former Loran Station	CERCLA	IC
SWMU 55, Public Works Transportation Department Waste Storage Area	CERCLA	CGWM/IC
SWMU 58 and SA 73, Heating Plant 6	SAERA	MNA/IC

Table 9-2 (Continued)
OU A Sites Where the Remedy is Operating and Expected to Be Protective

Site Name	Regulatory Authority	Operating Remedy
SWMU 61, Tank Farm B	CERCLA, SAERA	MNA/IC
SWMU 67, White Alice PCB Spill Site	CERCLA	IC
Tanker Shed, UST 42494	SAERA	MNA /IC/FP

Notes:
ADEC - Alaska Department of Environmental Conservation
AST - aboveground storage tank
avgas - aviation gasoline
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CGWM - compliance groundwater monitoring
DRMO - Defense Reutilization and Marketing Office
FP - free product
IC - institutional control
LM - limited groundwater monitoring
MNA - monitored natural attenuation
MTM - marine tissue monitoring
PCB - polychlorinated biphenyl
PCM - post-closure monitoring
RCRA - Resource Conservation and Recovery Act
ROICC - resident officer in charge of construction
SA - source area
SAERA - State-Adak Environmental Restoration Agreement
SWMU - solid waste management unit
UST - underground storage tank

10.0 NEXT REVIEW

The next 5-year review is scheduled for completion in December 2016.

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Introduction

This Site Catalog provides a quick reference for Navy personnel, regulators and contractors. It is meant to provide a general overview of historical and current conditions at active OU A sites, inactive OU A sites where ARARs changes might plausibly result in the need for additional action, and OU B-1 sites selected for action in the OU B-1 ROD. The Site Catalog is not an exhaustive rendering of all site information, and some familiarity with the environmental history of Adak is assumed. The information included in the Site Catalog reflects the limitations of the readily available source documents, and the user is encouraged to review the source documents for additional details and to resolve any questions that might arise. All of the information in the Site Catalog is excerpted from other documents, and it is not practical to provide citations for every statement in the Site Catalog. Bibilography references are provided for each site and the user should refer to these references for more detailed information on each site.

The Adak Site Catalog is a living document that will be updated periodically or in association with significant changes in conditions that may occur. The Adak Site Catalog is provided as an appendix to the 5-year review for the site, and includes only summary information regarding each site. All data interpretations and recommendations regarding the sites are included in the body of the 5-year review or other project documents.

This document is produced in Adobe Acrobat .pdf format, and bookmarks are included for each Site to ease navigation. Bookmarks should be automatically displayed when the document is opened, although it may be necessary to activate bookmarks depending on the version of Adobe Reader.

Acronym definitions are summarized and defined at the end of the catalog. A bibliography list consisting of a numerical identifier is included for each Site. The detailed references are provided in the bibliography section, also included at the end of the catalog.

The following sections are included for most sites. Some sections may be omitted for particular sites if no relevant information or data are available.

Maps

The map displayed as the first page for each site shows a general overview of the site. The inset in the upper left hand corner shows the location of the site on Adak Island and the main view shows features in the immediate area. A site boundary polygon is shown for sites with boundaries included in the Interim Conveyance document (included as Attachment D-1 of the Comprehensive Monitoring Plan, bibliography reference number 125). Sampling locations are also shown, and reflect all locations stored in the Navy's database with geospatial X and Y coordinates.

The maps included here are intended to illustrate only the general number and distribution of sampling locations at the sites. Specific details regarding sampling locations are often not discernable. The maps are intended to provide an overall sense of the size and complexity of each site, and the general number of sampling locations used for cleanup decision making. In order to accurately depict the history of investigation and cleanup at each site, as well as the position of each site on the Island, multiple maps at different scales would be required for each site (just as multiple maps are required in the source documents for each site). This would undermine the intent of the Site Catalog as an abbreviated quick reference guide for the sites. The user should rely on the source documents for more detailed map and sample location information. Note that for sites with ongoing monitoring, the most recent map of the monitoring locations and results is linked to the Site Catalog entry under the Operations, Maintenance, and Monitoring section. More detailed information regarding the type of sampling locations at each site and the analytical data collected may be obtained by referring to the project documents. Because of space limitations in the Site Catalog, site names may be abbreviated and minimal explanatory information, such as legends, are included. A general legend, applicable to all introductory maps, is included after this introduction, along with site location maps for Adak Island.

Status

A quick-reference summary of the current status of the site, with regard to site closure, monitoring, and institutional controls. Status notes in this field for sites with active monitoring of environmental media include a listing of the media being monitoring (e.g., "Groundwater monitoring, landfill monitoring, and IC inspections."). For sites that have achieved either complete closure or conditional closure, the closure status is noted. In many cases the year when agency concurrence regarding closure is also noted. As commonly used in historical documents for Adak, complete closure is often abbreviated "NFA", meaning No Further Action, whereas conditional closure is often abbreviated "NFRAP", meaning No Further Remedial Action Planned.

Background

Provides the history of the site, focused on the source of contamination driving the remediation requirements. This section generally covers the time period up to the ROD and is meant to provide an accurate and consistent background description which can be included in subsequent project documents.

Pre-ROD Assessment Summary

A table that draws statistical information from the Navy’s database to provide a general synopsis of the analytical results available at the time of the ROD or SAERA decision document.

COC and Risks

A summary of the contaminants of concern and risk drivers for the site, as described in the ROD or SAERA decision document.

RAOs

A summary of the remedial action objectives for the site, as described in the ROD or SAERA decision document.

Remedy Implementation

A summary of the remedies that were implemented at the site, including remedies under the CERCLA RODs and, where applicable, follow-on SAERA decision documents.

Operations, Maintenance and Monitoring

A checklist summary of the current monitoring requirements, the dates of the most recent inspection and sampling, the current media and analytes included in monitoring, and a link to the most recent monitoring figures and tables, from the most recent final monitoring report.

Introduction

Monitoring History

A tabular summary of the sampling history at each well at the site. All monitoring types are included in this table for sites where on-going monitoring is being performed.

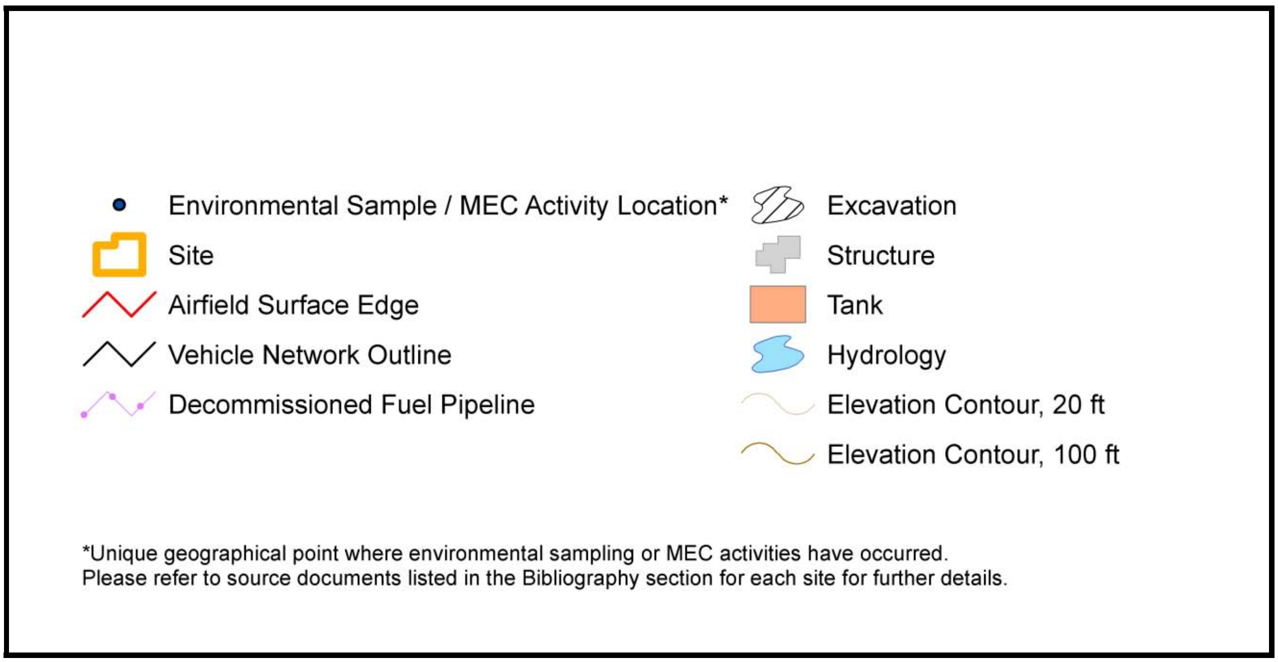
Site Inspection Summary

A brief narrative summary of the most recent site inspection performed under the Institutional Controls Monitoring Plan, based on the most recent final inspection report.

Bibliography

Numerical reference numbers that correspond to the bibliography report included at the end of the document.

Map Legend



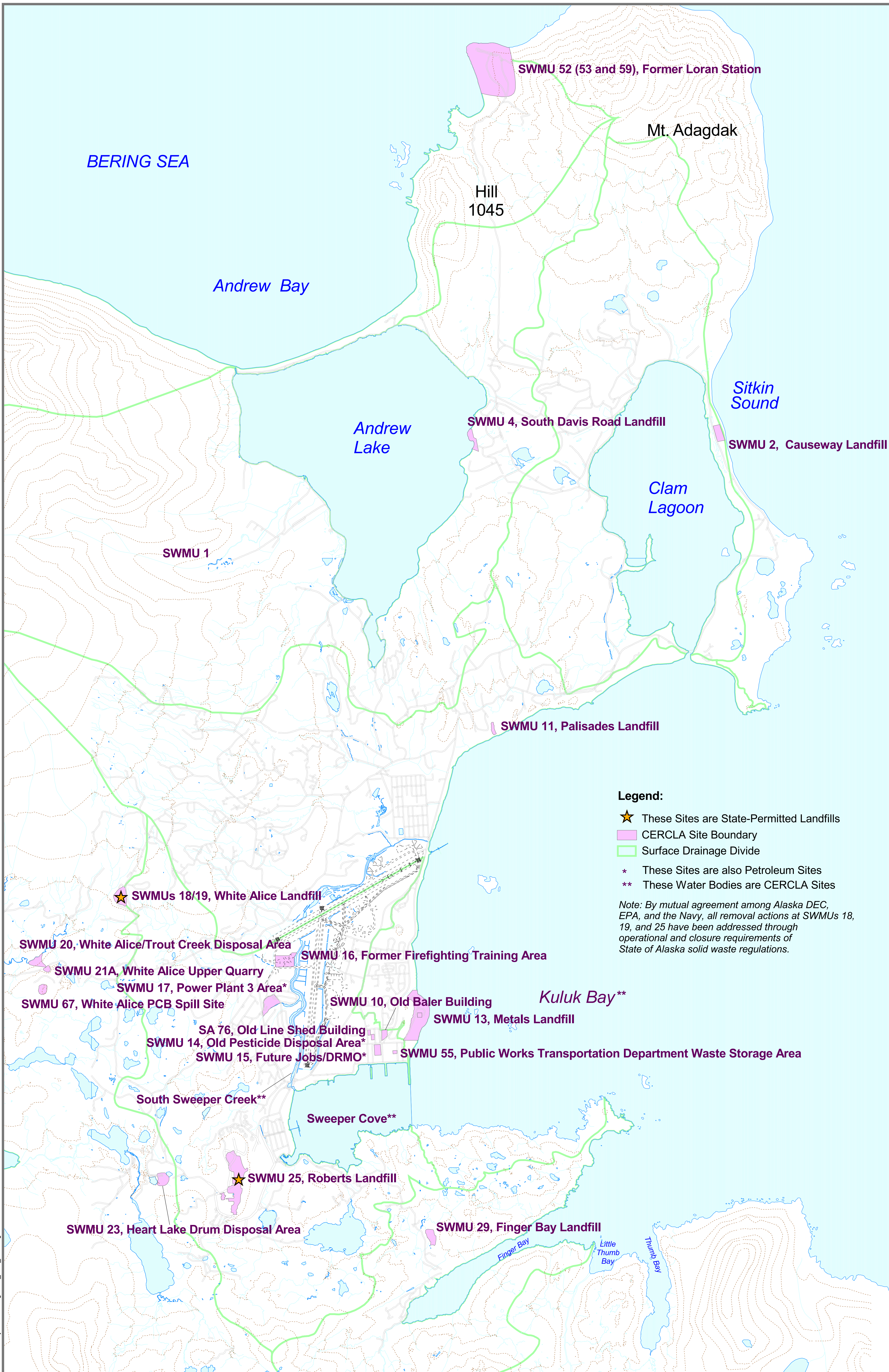


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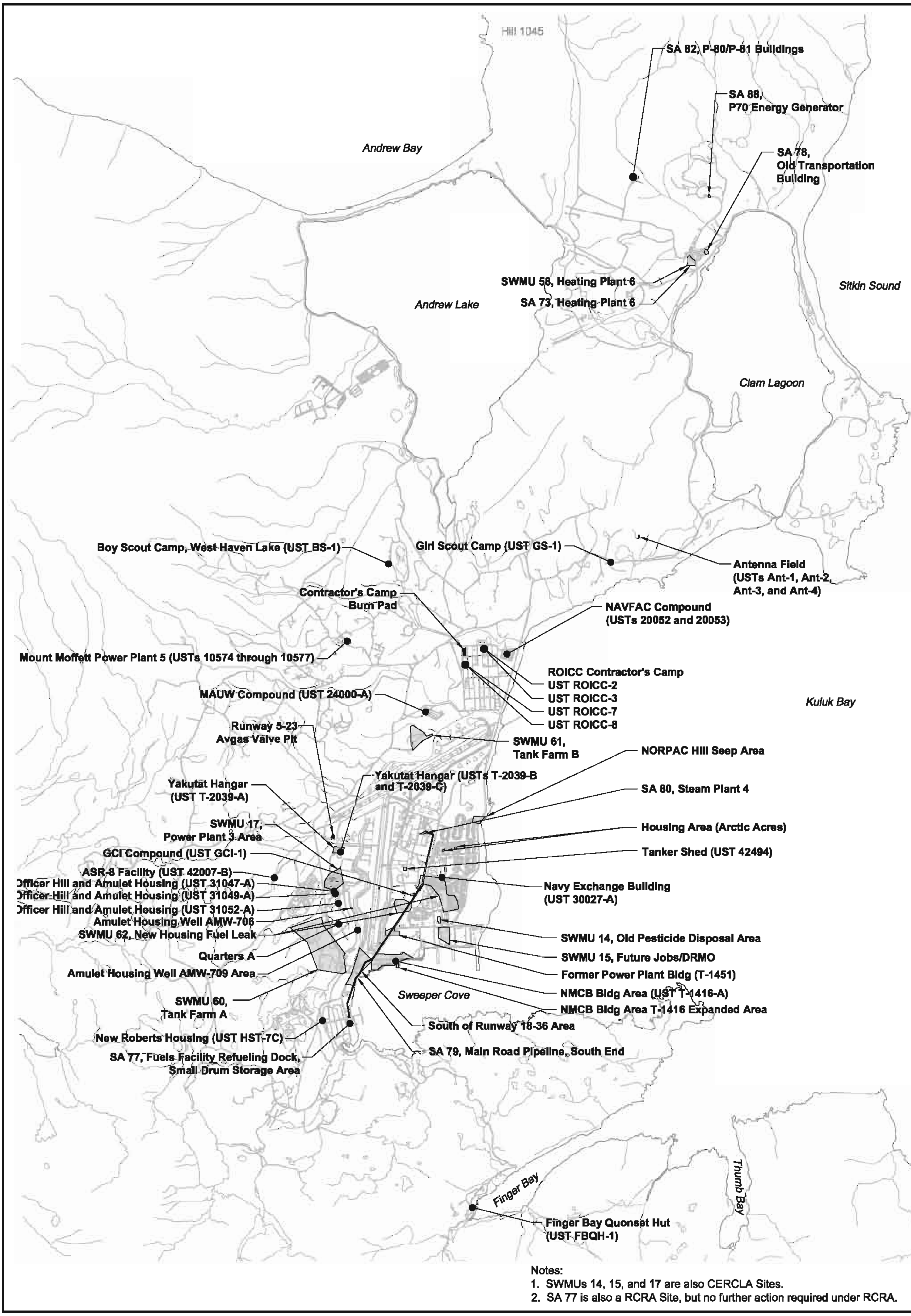
Figure 1
Operable Unit A CERCLA Sites That Require Further Action

Delivery Order 0019
Adak Island AK
ADAK SITE CATALOG
NOVEMBER, 2011



U.S. NAVY

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SCALE IN FEET

Figure 2
Operable Unit A Petroleum Sites That Require Further Action

Delivery Order 0019
Adak Island, AK
ADAK SITE CATALOG
NOVEMBER, 2011

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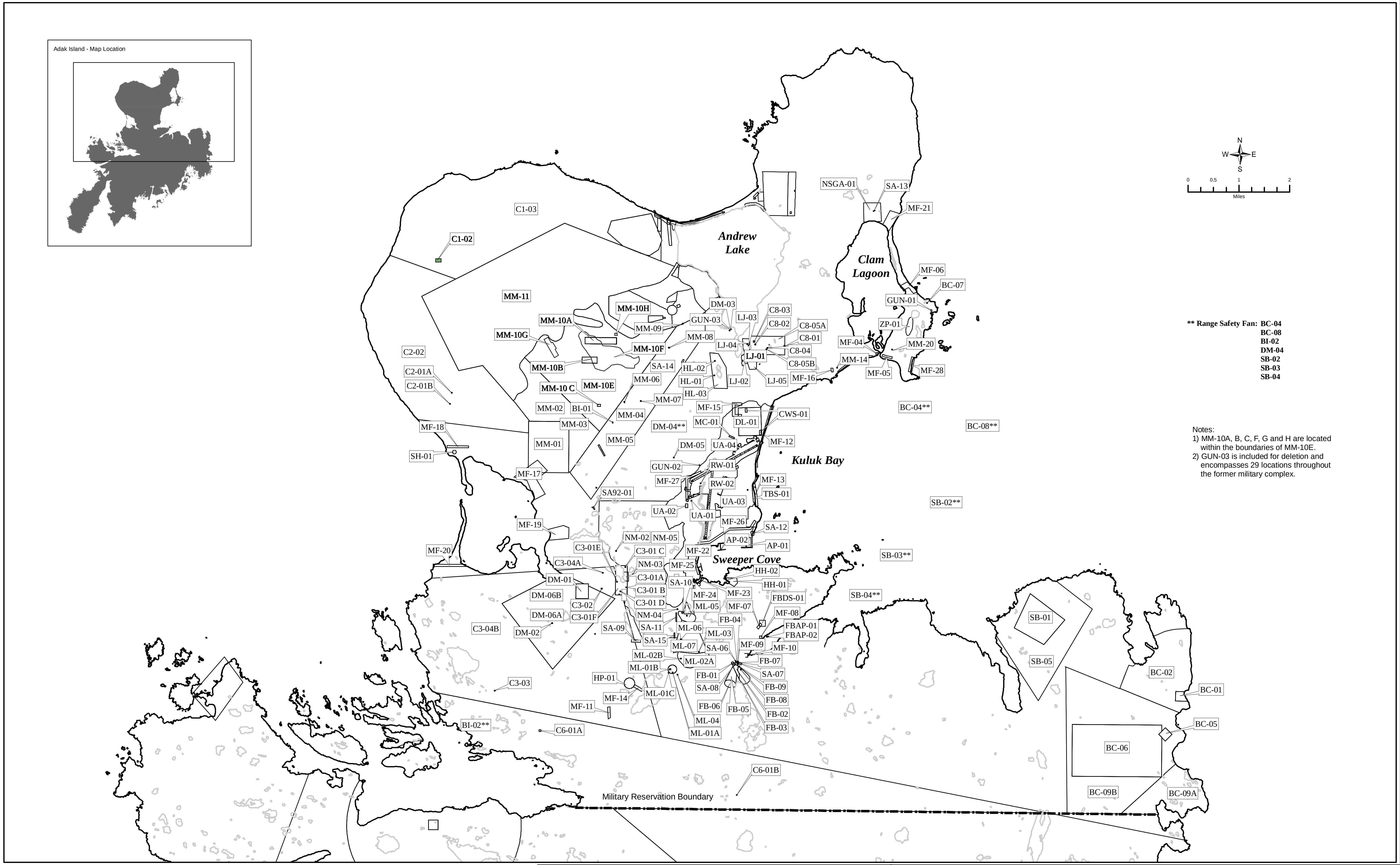

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U.S. NAVY

Delivery Order 0019
Adak Island, AK
Adak Site Catalog
November 2011

Figure 3
Operable Unit B-1 Sites

Amulet Housing - Well AMW-706 Area **OU A - SAERA**

Environmental Restoration Site Report
Adak Island, Alaska

Amulet Housing - Well AMW-706 Area — OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence. IC inspections are required.

BACKGROUND:

The Amulet Housing, Well AMW-706 Area is located along the eastern edge of Amulet Housing, on the east side of Travis Way, and west of Runway 18-36. The site is approximately 0.5 mile north of Sweeper Cove. South Sweeper Creek is located approximately 50 feet east of Well AMW-706. The Amulet Housing area was used for warehousing engineering equipment in the 1940s until housing units were constructed in the early 1950s. Most housing units and their associated fuel tanks were removed in the late 1980s to early 1990s. Well AMW-706 was installed during the RI at Tank Farm A as part of a group of wells used to assess groundwater quality and flow characteristics outside of the Tank Farm A source areas. Petroleum hydrocarbons were detected in soil and groundwater samples collected from the AMW-706 boring drilled at the site in August 1993 at concentrations exceeding the ADEC matrix levels. The source of petroleum hydrocarbons observed at the AMW-706 area has not been identified, but may include leaks or spills from the USTs used to store JP-5 for residential heating at Officer Hill and Amulet Housing; SWMU 60, Tank Farm A; SWMU 17, Power Plant 3; or other unknown sources.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	12
Number of Pre-Rod Samples	26
Potential Contaminat Types Evaluated	Inorganics, Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Sub-surface soil (> 6")
Types of Pre-ROD Locations	Direct Push/Geoprobe, Hand auger, Monitoring well, River/stream, Test Pit, Well

Amulet Housing - Well AMW-706 Area — OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

<u>Groundwater</u>

- Lead (total)

Total lead in groundwater exceeded screening criteria in samples collected in 1993. Downgradient migration to South Sweeper Creek via overland flow is not a potential migration pathway, but groundwater flow to South Seeper Creek is a potential migration pathway. In 1996, the site was retained for further evaluation under the SAERA process, because although the maximum subsurface soil concentration for DRO was below the 1996 screening criterion of 5,000 mg/kg for residential sites, the source area is located less than 200 feet from the DEM, South Sweeper Creek. The OU A ROD (1999) did not identify human health or ecological risks associated with the site.

RAOs:

The OU A ROD for the petroleum site Amulet Housing, Well AMW-706 Area established the following RAO for Amulet Housing, Well AMW-706 Area (Table 7-4 of the OU A ROD):

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA and ICs.

Groundwater monitoring was conducted between 1999 and 2002. Monitoring was discontinued at this site in 2003, because total and dissolved lead concentrations in groundwater were less than ADEC groundwater cleanup levels for six consecutive sampling events.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required additional soil sampling near locations 151, 261, and 263 to achieve NFA.

The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including AMW-706.

Amulet Housing - Well AMW-706 Area — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection — **Click to View ICMP Table**
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date October 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Amulet Housing - Well AMW-706 Area — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AMW-706	MNA	Groundwater
1999	Total and dissolved lead (quarterly - 2 rounds)	
2000	Total and dissolved lead (quarterly - 2 rounds)	
2001	Total and dissolved lead	
2002	GRO, BTEX, DRO, RRO, NAPs, total and dissolved lead	
2003	Met endpoint criteria; monitoring discontinued	

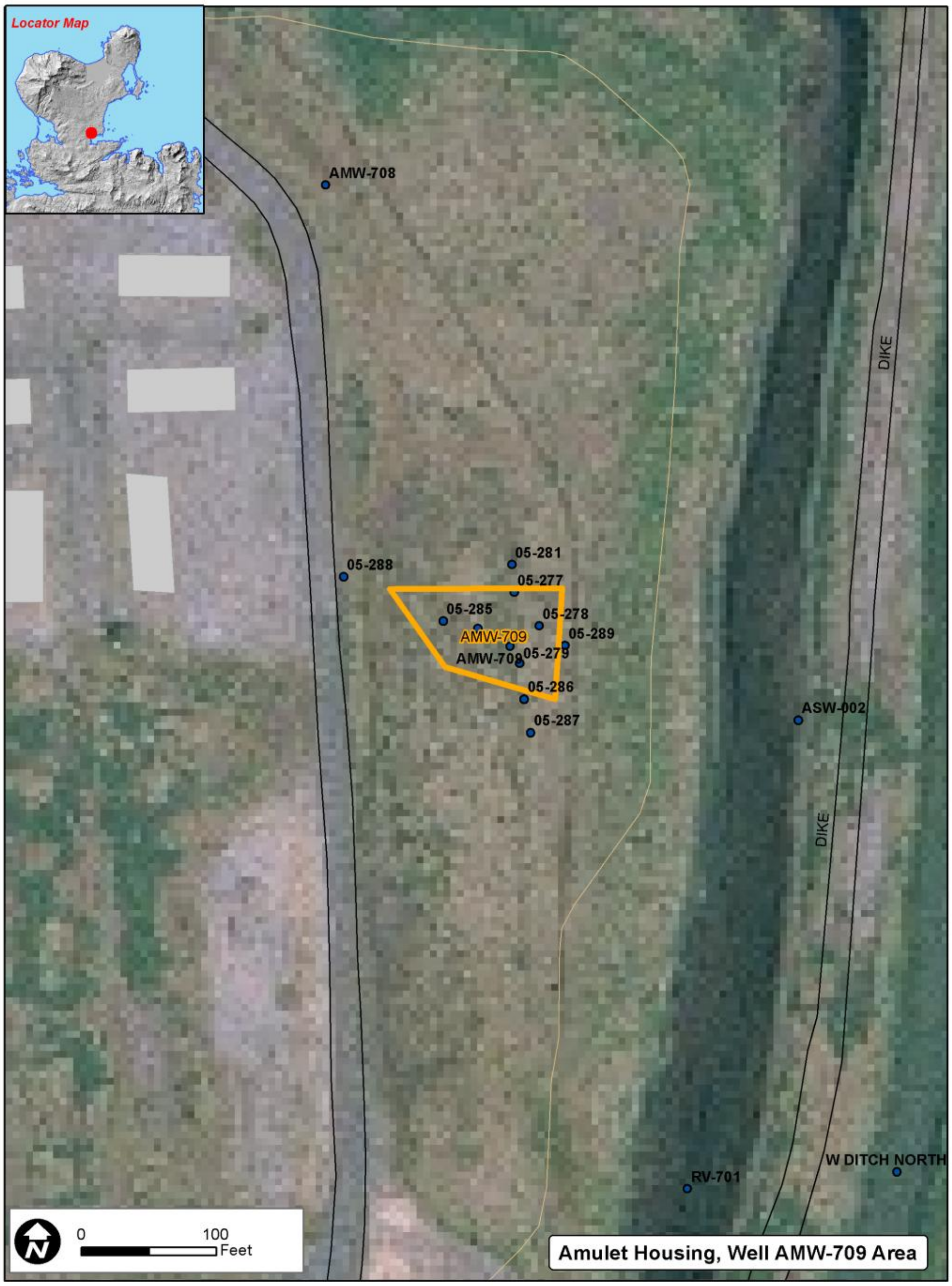
SUMMARY OF INSPECTION RESULTS:

The annual IC inspection in September 2010 found that the site has had no apparent activity and that Ics are functioning as intended. These results were confirmed by the August 2010 Five-Year Review site inspection.

BIBLIOGRAPHY:

2, 28, 55, 62, 81, 84, 86, 125, 129

Amulet Housing - Well AMW-709 Area **OU A - SAERA**



Amulet Housing - Well AMW-709 Area — OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence. IC inspections are required.

BACKGROUND:

The Amulet Housing, Well AMW-709 Area is located along the eastern edge of Amulet Housing, on the east side of Travis Way, and west of Runway 18-36. The site is approximately 1 mile north of Sweeper Cove. South Sweeper Creek is located approximately120 feet east of Well AMW-709. The Amulet Housing area was used for warehousing engineering equipment in the 1940s until housing units were constructed in the early 1950s. Most housing units and their associated fuel tanks were removed in the late 1980s to early 1990s. Well AMW-709 was installed during the RI at Tank Farm A as part of a group of wells used to assess groundwater quality and flow characteristics outside of the Tank Farm A source areas. Petroleum hydrocarbons were detected at concentrations exceeding the ADEC matrix levels in soil and groundwater samples collected from the AMW-709 boring, drilled at the site in August 1993. The source of petroleum hydrocarbons observed at the AMW-709 area has not been identified, but may include leaks or spills from the USTs used to store JP-5 for residential heating at Officer Hill and Amulet Housing. The source of petroleum chemicals does not appear to be associated with Tank Farm A.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	11
Number of Pre-Rod Samples	22
Potential Contaminat Types Evaluated	Inorganics, Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Monitoring well

Amulet Housing - Well AMW-709 Area | OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria (Table 10-3 of the OU A Rod):

Groundwater

- Lead (total)

Total lead was the only analyte detected in groundwater that exceeded screening criteria in samples collected in 1993. Downgradient migration to South Sweeper Creek via overland flow is not a potential migration pathway, but groundwater was encountered at the site and is a potential migration pathway to South Sweeper Creek. In 1996, the site was retained for further evaluation under the SAERA process, because although the maximum subsurface soil concentration for DRO was below the 1996 screening criterion of 5,000 mg/kg for residential sites, the source area is located less than 200 feet from the DEM, South Sweeper Creek. The OU A ROD (1999) did not identify human health or ecological risks associated with the site.

RAOs:

The OU A ROD for the petroleum site Amulet Housing, Well AMW-709 Area established the following RAO for Amulet Housing, Well AMW-709 Area (Table 7-4 of the OU A ROD):

- Mitigate potential for downgradient migration.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA and ICs.

Groundwater monitoring was conducted between 1999 and 2002. Monitoring was discontinued at this site in 2003, because total and dissolved lead concentrations in groundwater were less than ADEC groundwater cleanup levels for six consecutive sampling events.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required additional soil sampling near locations 154, 269, and 285 to achieve NFA.

The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including AMW-709.

Amulet Housing - Well AMW-709 Area — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection — Click to View ICMP Table
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date October 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Amulet Housing - Well AMW-709 Area — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AMW-709	MNA	Groundwater
1999	Total and dissolved lead (quarterly - 2 rounds)	
2000	Total and dissolved lead (quarterly - 2 rounds)	
2001	Total and dissolved lead	
2002	GRO, BTEX, DRO, RRO, NAPs, total and dissolved lead	
2003	Met endpoint criteria; monitoring discontinued	

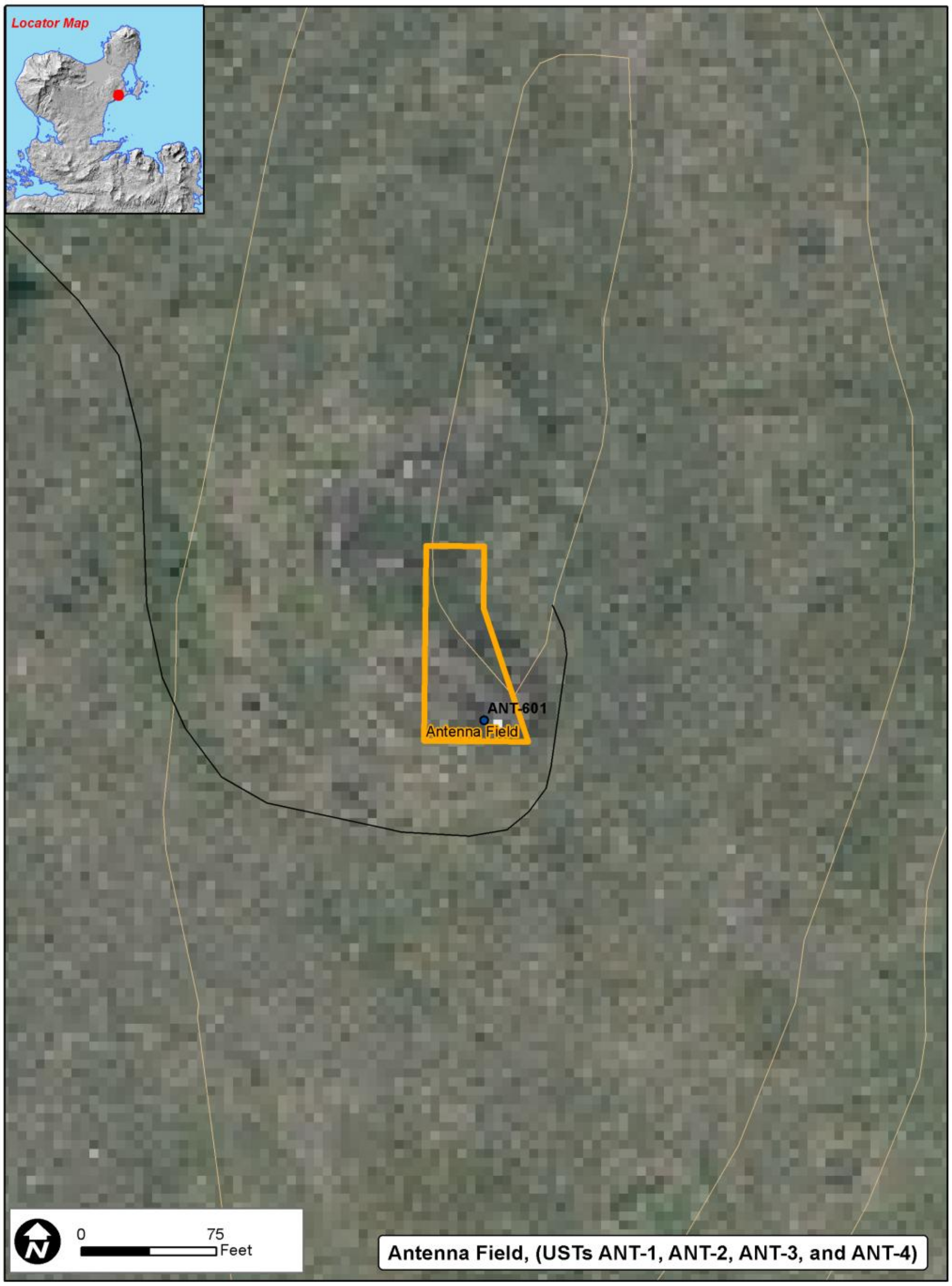
SUMMARY OF INSPECTION RESULTS:

The annual IC inspection in September 2010 found that the site has had no apparent activity and that ICs are functioning as intended. These results were confirmed by the August 2010 Five-Year Review site inspection.

BIBLIOGRAPHY:

2, 28, 55, 62, 81, 84, 86, 125, 129

Antenna Field **OU A - SAERA**



Antenna Field — OU A - SAERA

STATUS: Groundwater monitoring, IC inspections, additional investigation.

BACKGROUND:

The Antenna Field is located on a hilltop northeast of Palisades Lake, midway between downtown Adak and Clam Lagoon. Three buildings and antennas were built in 1948 on the site. USTs ANT-1, ANT-2, ANT-3, and ANT-4 supplied JP-5 as heating fuel to the buildings, but were removed in 1993. Several small holes were observed in USTs ANT-3 and ANT-4 upon removal. The source of the petroleum release is not recorded, but appears to have originated from the USTs.

The general topography of the Antenna Field is irregular and is characterized by hills and drainage swales. Palisades Lake is located about 750 feet downgradient (southwest) of the site and is considered to be the DEM, because the site topography slopes predominantly to the southwest. Downgradient migration via overland flow is possible, but unlikely. Although groundwater is present at the site, groundwater recharges slowly or is not present at all, given the relatively impermeable nature of the underlying tephra.

One monitoring well (ANT-601) was installed approximately 10-15 feet south of the tank excavations in July 1998 in an inferred downgradient direction from the former UST locations. One soil sample was collected from the vadose zone during well installation and was analyzed for DRO. PID readings and the evidence of a sheen in soil classification samples indicated the presence of petroleum hydrocarbons at the time of drilling. The well was installed to a depth of 10 bgs where bedrock prevented deeper drilling. The well was screened from 4.75 to 9.75 feet bgs. Low water-recharge conditions were encountered during well development. One groundwater sample was collected in August 1998 following well development and analyzed for DRO.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	9
Number of Pre-Rod Samples	10
Potential Contaminat Types Evaluated	Petroleum hydrocarbons
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Monitoring well, Test Pit

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria:

Groundwater

- DRO

In 1996, the site was screened using the ADEC matrix cleanup levels and the ADEC supplemental criteria. The site was retained for further investigation because the maximum DRO concentration was slightly above the supplemental criterion for subsurface soil. The supplemental criterion for DRO no longer applies to this site because ROD-established cleanup levels now apply to this site. Surface water migration via overland flow is possible, but groundwater, although present, is not a significant pathway. The OU A ROD (1999) did not identify human health or ecological risks associated with the site.

RAOs:

The OU A ROD for the petroleum site Antenna Field (USTs ANT-1, ANT-2, ANT-3, and ANT-4) established the following RAO for the Antenna Field (USTs ANT-1, ANT-2, ANT-3, and ANT-4) on Table 7-4 (OU A ROD):

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA and ICs.

Natural attenuation groundwater monitoring for this site began in 1999 and is ongoing. As required by the latest version of the CMP, the presence or absence of free product is assessed prior to groundwater sampling at each well. If free product is observed, decisions are made based on the measured free product thickness as to whether free product removal is warranted, and whether groundwater samples should be collected. The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including Antenna Field.

After evaluation of the site conditions at the Antenna Field, the Navy and ADEC agreed in 2009 to perform additional investigation of this site to assess the current extent of petroleum-impacted media of concern at the site. The objective of the additional characterization was to collect sufficient data to assess the lateral extent of residual DRO in soil and groundwater and establish a network of groundwater monitoring wells sufficient to demonstrate natural attenuation of DRO in groundwater over time.

In June of 2010, the Navy installed six additional monitoring wells and eight soil borings to further characterize the site. Concentrations of DRO in soil exceeded the ADEC cleanup level of 230 mg/kg at two of 27 locations: 1) ANT-602, with concentrations of 18,000 mg/kg in the sample collected from 2.5 feet bgs and 950 J mg/kg in the sample collected from 7.5 feet bgs; and 2) ANT-SB09/ANT-603, with concentrations of 12,000 mg/kg in the sample collected from 5 feet bgs and 2,900 J mg/kg in the sample collected from 7.5 feet bgs. The area of soil with DRO exceedances was delimited by the additional investigation, except that the extent of soil does not appear to be delimited to the southeast of ANT-602.

Of the seven wells at the site, only ANT-601 contained groundwater during the additional investigation. The sample from this well was analyzed for DRO, which was detected at a concentration less than the ADEC cleanup level of 1,500 µg/L.

Antenna Field — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Soil and groundwater

Current Analytes Sampled DRO, NAPs, product thickness

Current Monitoring Click to View Current Monitoring **Monitoring File:** AntennaField_MonCurr.pdf

Antenna Field **OU A - SAERA**

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
ANT-601	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, DRO fractions, RRO, NAPs	
2003	DRO, RRO, NAPs	
2004	DRO, RRO, NAPs	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO	
2009	DRO, NAPs	
2010	DRO	

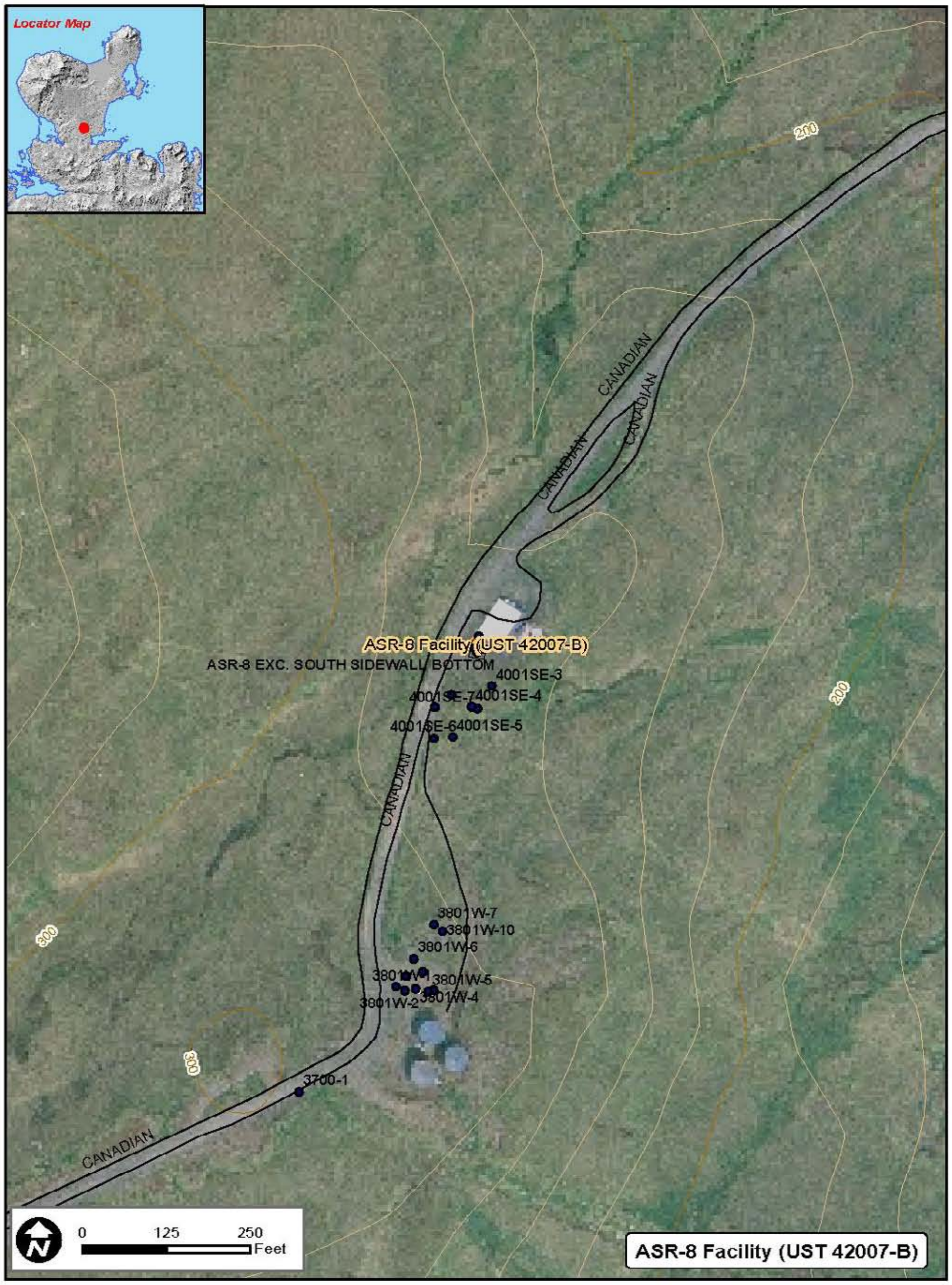
SUMMARY OF INSPECTION RESULTS:

The annual IC inspection in September 2010 found that the site has had no indications that groundwater was being used or indications of excavation activities were found. During 2010, several new monitoring wells were installed at the site as part of additional site characterization activities. The 2010 IC report indicated ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 31, 34, 39, 41, 44, 52, 62, 81, 84, 89, 90, 91, 112, 118, 125, 129,134

ASR-8 Facility (UST 42007-B) OU A - SAERA



ASR-8 Facility (UST 42007-B) OU A - SAERA

STATUS: NFA in 2007, with ADEC concurrence.

BACKGROUND:

The ASR-8 Facility houses the transmitter formerly used by the Federal Aviation Agency. The facility is located on Bering Hill, on the crest of a ridge overlooking downtown. UST 42007-B was used to store JP-5 to supply an emergency generator. The UST was decommissioned and removed in 1995. The tank appeared to be in good condition when it was removed. The source of petroleum release is not recorded, but it appears to have originated from the UST, or from overfills and piping leaks.

The general topography surrounding the former location of UST 42007-B consists of hills and swales. The area immediately surrounding the former tank consists of a gravel driving surface and parking area underlain by sand. Downgradient migration via overland flow to an unnamed creek approximately 75 feet west of the site is possible, but unlikely. No groundwater was encountered at the site nor is it expected, because the site is located on tephra, a low-permeability, low-storage-capacity, silt/clay unit. Therefore, downgradient migration via groundwater is unlikely.

The maximum detected concentration of DRO in subsurface soils remaining in place following UST removal was 4,500 mg/kg.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	8
Number of Pre-Rod Samples	10
Potential Contaminat Types Evaluated	Petroleum hydrocarbons
Pre-ROD Sample Matrix Types	Sub-surface soil (> 6")
Types of Pre-ROD Locations	Direct Push/Geoprobe, Excavation, Pipeline

ASR-8 Facility (UST 42007-B) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

In 1996, the ASR-8 Facility site was retained for further analysis under the SAERA process because although the maximum subsurface soil concentration of DRO was less than the screening criterion for recreational sites of 12,500 mg/kg, the source area is less than 200 feet from the downgradient surface water body. Soil exceeding the ROD-established ADEC 18 AAC 75 criteria was proposed to be removed during the limited soil removals conducted in 1999. However, operations at the facility during this time prevented this activity from taking place. The OU A ROD (1999) did not identify human health or ecological risks associated with the site.

RAOs:

The OU A ROD for the petroleum site ASR-8 Facility (UST 42007-B) established the following RAO for the ASR-8 Facility (UST 42007-B) on Table 7-4 of the OU A ROD:

- Mitigate potential for downgradient migration.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

A limited soil removal was performed in 2006. The excavation was 15 x 20 x 7 feet deep. Bedrock was encountered at a depth between 7 feet and 7.5 feet. All contaminated soil was transported off-island for disposal. Six confirmation samples from the floor and sidewalls of the excavation were collected. DRO was not detected in four of the samples, with detection limits ranging from 2.1 mg/kg to 2.2 mg/kg. Concentrations in the remaining two confirmation soil samples were 2.9 mg/kg and 9.7 mg/kg, both of which are below the ADEC cleanup level.

With ADEC concurrence, ASR-8 was designated as NFA in July 2007.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including ASR-8.

ASR-8 Facility (UST 42007-B) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☐ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☑ None Required

Most Recent Sampling Date July 2006 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

ASR-8 Facility (UST 42007-B) OU A - SAERA

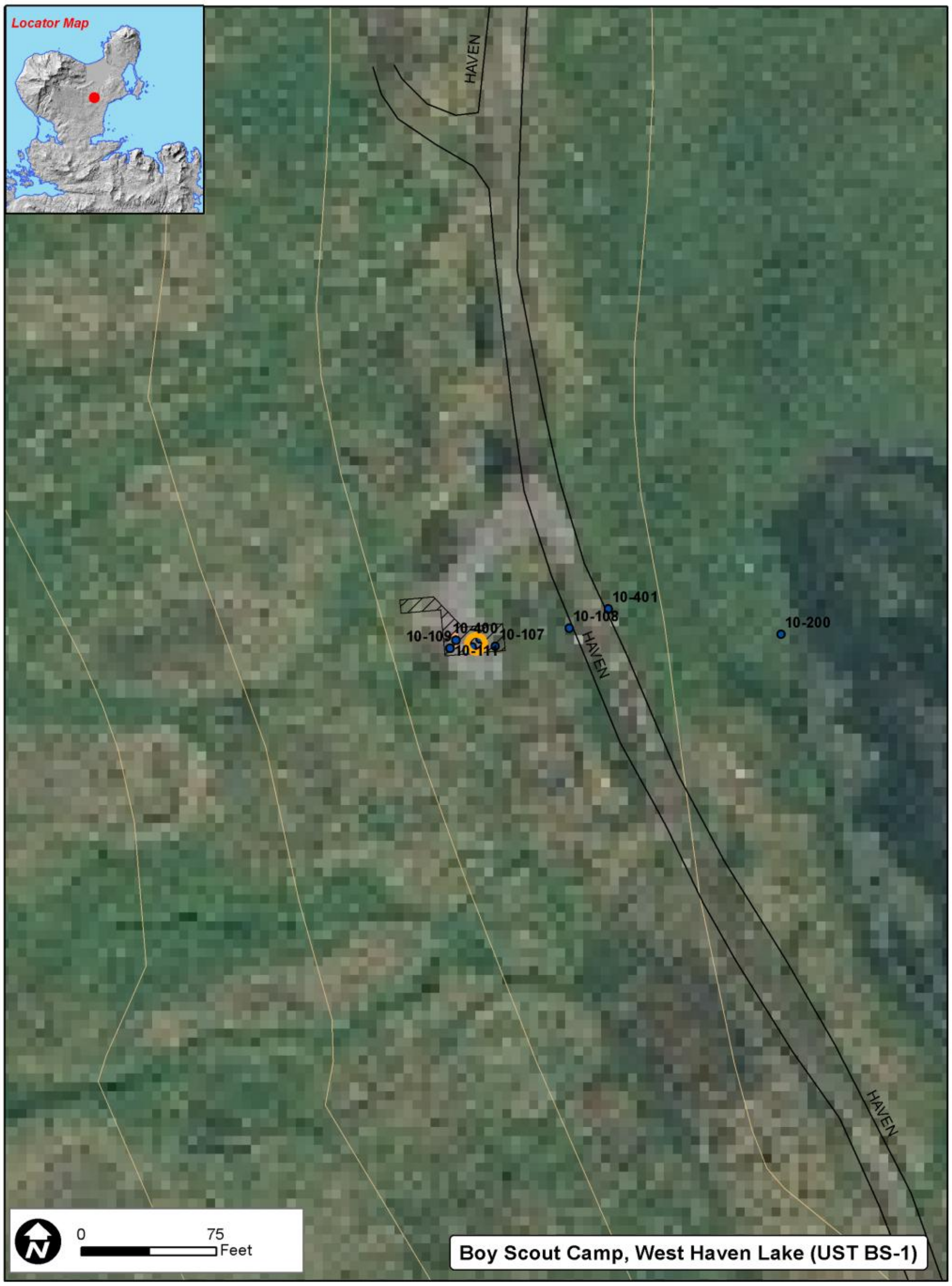
SUMMARY OF INSPECTION RESULTS:

The inspection in August 2010 found that the site has had no apparent activity since the last five-year review. No indications that groundwater was being used or indications of excavation activities were found.

BIBLIOGRAPHY:

62, 92, 93, 97

Boy Scout Camp - West Haven Lake (UST BS-1) OU A - SAERA



Boy Scout Camp - West Haven Lake (UST BS-1) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence. IC inspections required by ICMP.

BACKGROUND:

The former Boy Scout Camp is located in a remote area near the western shores of Haven Lake, about 2 miles north of downtown. The former Boy Scout Camp site and surrounding area was formerly used for ordnance storage during the 1940s. During this period several warehouses, Quonset huts, and operations buildings associated with this military use were present in the area. Only remnants of these structures remain. The cabin that was used to house the Boy Scout Camp during the mid- to late 1980s also has been removed. The building foundation, a 17.5- by 24-foot concrete pad, still exists on the site. The 850-gallon wooden stave tank (UST BS-1) was probably installed adjacent to the eastern wall of the cabin in 1944, but was removed in 1993. Lightweight fuel oil (likely JP-5) was stored in former UST BS-1, presumably to heat the cabin.

The general topography of the Boy Scout Camp West Haven Lake site slopes downward to the east, where Haven Lake lies approximately 130 feet east. The groundwater surface intercepts the ground surface at various points across the site area. As a result, groundwater flows freely out of and across the surface of the ground from seeps, springs, and similar features. Downgradient migration to Haven Lake via overland flow or shallow groundwater flow is possible. Groundwater encountered at the site is a possible migration pathway.

UST BS-1 and the associated piping were removed in September 1993. During the UST closure, the tank was reported in poor condition with a narrow hole about 1 foot long on top of the tank and the wood moderately weathered. DRO in soil samples collected from the north and west walls of the excavation at 2.5 feet bgs yielded concentrations above ADEC cleanup requirements. An additional site investigation to measure chemical concentrations in soil and groundwater in the vicinity of the UST was conducted in 1996 and 1997, and three monitoring wells were installed. DRO was detected in surface and subsurface soil samples at concentrations above ADEC 18 AAC 75 criteria. Concentrations of all detected analytes (DRO, GRO, BTEX, and low-molecular-weight PAHs) in groundwater were below the ADEC cleanup criteria.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	12
Number of Pre-Rod Samples	24
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Borehole/Soil boring, Excavation, Monitoring well, Well, Wetlands

Boy Scout Camp - West Haven Lake (UST BS-1) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

In 1997, the site was retained for further study, because the site contains DRO in surface and subsurface soils at concentrations exceeding ADEC supplemental criteria and because the site is less than 200 feet from the DEM. The OU A ROD (1999) did not identify human health or ecological risks associated with the site.

RAOs:

The OU A ROD for the petroleum site Boy Scout Camp, West Haven Lake (UST BS-1) established the following RAO for Boy Scout Camp, West Haven Lake (UST BS-1) on Table 7-4 (OU A ROD):

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

In 1999, an estimated 107 cubic yards of petroleum-affected soil were excavated during a removal action. Field screening of soil samples collected upon completion of the removal action indicated that petroleum hydrocarbon concentrations in soil remaining at the former UST BS-1 site exceeded ADEC Method Two cleanup levels along the southern, eastern, and western boundaries of the excavation. Because additional soil removal was not possible due to site conditions, a groundwater monitoring well (10-401) was installed at the site.

Groundwater samples were collected from two wells on site in 1999 and 2000 during comprehensive monitoring activities. Limited groundwater monitoring endpoints were achieved and groundwater monitoring was discontinued at this site in 2000.

The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including Boy Scout Camp. No ICs specific to Boy Scout Camp were established in the OU A ROD; however, ICs are included for this site in the ICMP.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 107, 109, 201, and 203 to achieve NFA.

Boy Scout Camp - West Haven Lake (UST BS-1) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection — Click to View ICMP Table
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date July 2000 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Boy Scout Camp - West Haven Lake (UST BS-1) OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
10-400	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
10-401	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity since the previous inspection. No indications that groundwater was being used or indications of excavation activities were found. The required no excavation sign was present and in good condition. The five-year review inspection in August 2010 confirmed these findings. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

2, 28, 55, 62, 84, 91, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

Contractor’s Camp Burn Pad OU A - SAERA

Contractor's Camp Burn Pad — OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

The former Contractor's Camp Burn Pad site is located in the northwest corner of the Contractor's Camp area, which is situated north of the eastern end of Runway 5-23. The burn pad is located south of Forest Road, between Drennen Road and Main Davis Road. The Contractor's Camp Burn Pad formerly served as a warehouse foundation in the ROICC Contractor's Area for storing equipment and supplies. Following removal of the warehouse structure, the foundation was used for soil treatment operations conducted with a thermal desorption unit.

Surface runoff is expected to be minimal because the site is flat and drainage is poor. A marsh area lies approximately 205 feet west-southwest (downgradient) of the former location of the burn pad.

In response to reports that a fuel spill had occurred next to the burn pad during operation of the thermal desorber, a field investigation was conducted in 1997 to evaluate the extent of petroleum-affected soil. The AOC is located next to the east side of the burn pad, approximately 100 feet south of its northeast corner. The investigation included collecting subsurface soil from 10 Geoprobe locations and four hand auger locations in the area of the reported spill. Twenty-three soil samples were collected at depths ranging from 0.1 to 9 feet bgs. DRO was measured in these samples at concentrations ranging from 16 mg/kg to 7,400 mg/kg. The ADEC Method Two soil cleanup level of 230 mg/kg was exceeded in seven of these samples.

Groundwater was encountered at the site and is a possible migration pathway. Analytical results from a groundwater sample collected in 1998 showed no exceedances of the ROD-established ADEC 18 AAC 75 criteria.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	16
Number of Pre-Rod Samples	28
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Direct Push/Geoprobe, Hand auger, Monitoring well

Contractor's Camp Burn Pad — OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

<u>Soil</u>

- DRO

RAOs:

The OU A ROD for the petroleum site Contractor's Camp Burn Pad established the following RAO for the Contractor's Camp Burn Pad (Table 7-4 of the OU A ROD):

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

In 1999, approximately 105 cubic yards of in-place soil containing petroleum-related compounds at concentrations exceeding ADEC Method Two soil cleanup levels was removed from the site for treatment and disposal.

In 2000, an additional 20 cubic yards of petroleum-affected soil were removed from beneath Drennen Road, and laboratory analyses of excavation bottom samples indicated the absence of petroleum hydrocarbons in soil above applicable cleanup levels.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 205 and 210 to achieve NFA.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including Contractor's Burn Pad. No ICs specific to Contractor's Camp Burn Pad were established in the OU A ROD, and IC site inspections are not required for this site in the ICMP.

Contractor's Camp Burn Pad — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☐ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☑ None Required

Most Recent Sampling Date July 2000 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Contractor's Camp Burn Pad — OU A - SAERA

SUMMARY OF INSPECTION RESULTS:

The inspection in August 2010 found that the site has had no apparent activity since the last five-year review. No indications that groundwater was being used or indications of excavation activities were found.

BIBLIOGRAPHY:

2, 28, 55, 57, 84, 86, 87

Environmental Restoration Site Report
Adak Island, Alaska

Finger Bay Quonset Hut (UST FBQH-1) OU A - SAERA

Finger Bay Quonset Hut (UST FBQH-1) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence. IC inspections are required.

BACKGROUND:

The Finger Bay Quonset Hut, located near the end of Finger Bay Road, was built in the 1940s and used to support activities at the Finger Bay drydock and repair center. Between the 1960s and early 1990s, Quonset huts around this area were used as recreational sites for on-island personnel. The UST at this site was used to store JP-5 as fuel for an oil furnace in the Quonset hut. The date that the UST was installed is unknown, but believed to be in the late 1940s.

During the UST removal, two soil samples were collected from the floor of the excavation. DRO concentrations in both soil samples exceeded the ADEC Method Two soil cleanup level of 230 mg/kg. The Finger Bay Quonset Hut UST FBQH-1 and associated piping, believed to be the source of the DRO, were removed in 1997. An additional site investigation was required. Groundwater was not encountered during the UST removal activities.

Monitoring well FB-101 was installed near the site on July 25, 1998. Petroleum constituents were not detected in accompanying soil or groundwater samples at concentrations above the ROD-established ADEC 18 AAC 75 criteria.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	1
Number of Pre-Rod Samples	3
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Monitoring well

Finger Bay Quonset Hut (UST FBQH-1) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Finger Bay Quonset Hut (UST FBQH-1) established the following RAO for the Finger Bay Quonset Hut (UST FBQH-1) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

Limited soil removal activities commenced in September 1999. Approximately 22 cubic yards of soil containing petroleum-related compounds at concentrations exceeding ADEC Method Two soil cleanup levels were removed from the site. Soils containing petroleum-related compounds at concentrations greater than ADEC 18 AAC 75 criteria remain in place at the site. However, further excavation was limited by shallow bedrock.

The site remedy shifted from limited soil removal to limited groundwater monitoring with ADEC concurrence in 1999. One downgradient monitoring well was installed in 2001. Limited groundwater monitoring commenced in wells FB-101 and FB-206 in 2001. The site met the endpoint criteria after two sampling events and groundwater monitoring was stopped in 2002.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 202 and 203 to achieve NFA.

The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including Finger Bay Quonset Hut. No ICs specific to Finger Bay Quonset Hut (UST FBQH-1) were established in the OU A ROD; however, ICs are included for this site in the ICMP.

Finger Bay Quonset Hut (UST FBQH-1) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date October 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Finger Bay Quonset Hut (UST FBQH-1) — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
FB-101	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
FB-206	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, total and dissolved lead, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

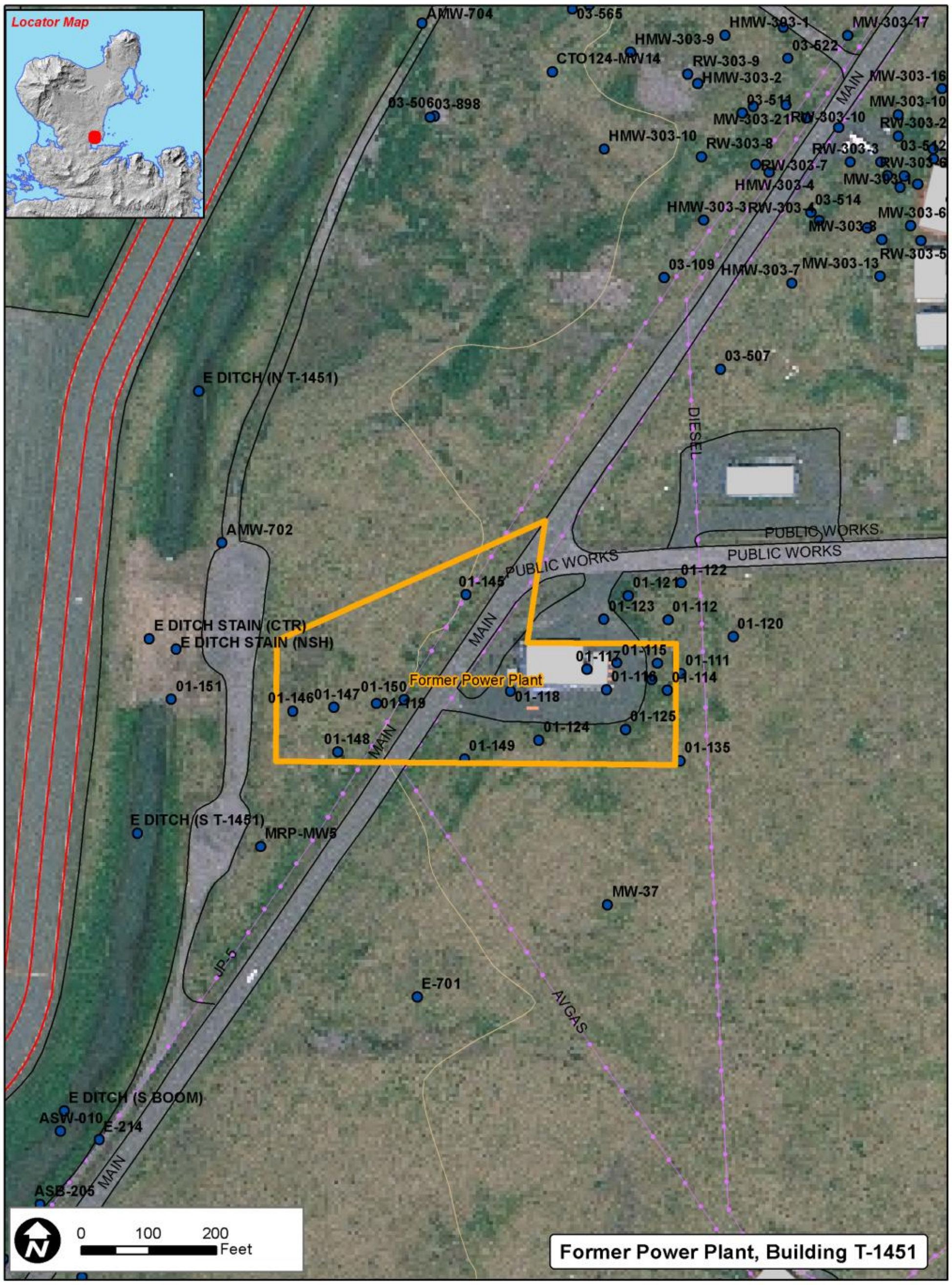
SUMMARY OF INSPECTION RESULTS:

The inspections in September 2009 and August 2010 found that the site has had no apparent activity since the previous inspection. No indications that groundwater was being used or indications of excavation activities were found. The inspection in August 2010 to support the five-year review and the 2010 IC report identified that the excavation notification sign was installed near the nearest parking area, but not immediately adjacent to the former Quonset hut structure. It is recommended an additional sign be installed at the base of the stairs adjacent to the former Quonset hut location.

BIBLIOGRAPHY:

2, 28, 55, 62, 84, 86, 91, 125, 129

Former Power Plant Building (T-1451) OU A - SAERA



Former Power Plant Building (T-1451) OU A - SAERA

STATUS: Groundwater, sediment, and surface water monitoring, IC inspections, additional investigation.

BACKGROUND:

The Former Power Plant Building T-1451 site is located in the southeast portion of downtown Adak, at the southeast corner of Public Works Road and Main Road. This building also has been referred to as Power House No. 4, Power Plant No. 4, or the main GEM building. The site consists of a level gravel lot at an elevation of approximately 20 feet above MLLW as well as an area dominated by native grasses that slopes down to the west toward the East Canal, which is the closest surface water body at a distance of approximately 500 feet west of the site. The manmade canal's shoreline is lined with grasses and other soft-stemmed plants. Overhead power lines run along the roadways to the north and west of the site. Underground utilities run along the roadways and in the area west of the Building T-1451. The facility was constructed in 1944 and consisted of a power plant building, three diesel ASTs, a fuel pump shed, a water tank, and a septic tank. Sometime after 1986, the power plant building was expanded and the former ASTs removed. It appears that the existing structure overlies much of the location of the three former ASTs.

The former ASTs were supplied by a 2-inch-diameter service pipeline used to transfer diesel fuel from former Fuel Dock 7 to the NSGA at Clam Lagoon. No records of release from the former tanks are available.

An 8-inch-diameter pipeline that reportedly transferred aviation gas from former Fuel Dock 7 to Tank Farm B ran along the eastern side of Main Road past the Former Power Plant site, but was abandoned in 1977. The Main Road Pipeline (6-inch JP-5) is located west of the site along the west side of Main Road. This pipeline was reportedly cleaned but not closed. A pipeline investigation was performed in 2007 to determine whether all pipelines in the vicinity of this site have been decommissioned. The located pipelines were decommissioned in 2009.

The site is relatively flat, soils are highly permeable, and all identified petroleum-affected soils were subsurface. Downgradient migration of chemicals to East Canal via overland flow is possible, but not probable. Petroleum-related compounds in near-surface soils could be leached and migrate downgradient through groundwater.

In 1992, an investigation conducted for the Main Road Pipeline included the collection of soil and groundwater samples at well MRP-MW5 located southwest of the Former Power Plant. DRO was not detected in the three soil samples or GRO in one soil sample; however, the detection limits were above the ADEC soil cleanup criteria. DRO was detected in groundwater at a concentration below the ADEC 18 AAC 75 criteria. During 1993, monitoring well AMW-703 was installed to characterize regional groundwater quality and flow as part of the Tank Farm A release investigation. DRO and GRO concentrations exceeded the ADEC soil cleanup criteria in two soil samples. DRO concentrations also exceeded the ADEC cleanup criterion in the one groundwater sample collected.

In 1996 and 1997, an additional site investigation was conducted in which seven hand-auger borings, seven Geoprobe soil borings, three 2-inch monitoring wells, and four ½-inch monitoring wells were installed. DRO concentrations exceeded ADEC cleanup criteria in 12 soil samples and 8 groundwater samples. DRO and GRO were not detected in the four surface water samples collected from standing water in the East Canal (the DEM for this site). The site was retained for further evaluation under the SAERA process because the maximum DRO subsurface soil concentration of 30,000 mg/kg exceeded the screening criterion of 12,500 mg/kg for industrial sites.

In 1998, a groundwater sample was collected from monitoring well 01-118. Analytical results showed DRO at a concentration that exceeded the ROD-established cleanup criteria. GRO and BTEX also were detected, but did not exceed the criteria. Well 01-118 was also sampled for total and dissolved lead as part of the Comprehensive Monitoring Program. No lead exceedances were noted in groundwater samples. However, benzene was detected at a concentration above the ADEC groundwater cleanup level.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	30
Number of Pre-Rod Samples	69
Potential Contaminat Types Evaluated	Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Sub-surface soil (> 6"), Surface water
Types of Pre-ROD Locations	Channel/Ditch, Direct Push/Geoprobe, Hand auger, Monitoring well, Well

Former Power Plant Building (T-1451) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria (Table 10-3 of the OU A):

<u>Soil</u>

- DRO

RAOs:

The OU A ROD established the following RAOs for the Former Power Plant Building (T-1451) on Table 7-4 of the OU A ROD:

- Reduce potential for direct contact with impacted surface soil.
- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA and ICs.

Natural attenuation groundwater monitoring for DRO, GRO, RRO, and BTEX was initiated in 1999 and is ongoing. Compliance groundwater monitoring for lead also commenced at this site in 1999. Only DRO and RRO concentrations were greater than OU A ROD cleanup criteria between 1999 and 2002. Two new monitoring wells were installed immediately downgradient of the site during 2003. TAH and TAqH analyses were added to well 01-151 in 2007. Surface water and sediment samples are collected annually from location NL-08 to monitor natural recovery of the East Canal starting in 2010. Surface water is analyzed for DRO, TAH, and TAqH. Sediment samples are analyzed for DRO and PAHs.

In 2009, additional site characterization was conducted in the form of sediment and surface water sampling along the eastern shoreline of East Canal, downgradient of Building T-1451. One sediment and one surface water sample at location EC-03 were analyzed, the results indicated DRO was present in surface water at a concentration of 310 ug/L, which exceeds the surface water risk-based cleanup level established for South of Runway 18/36. The co-located sediment sample reported a DRO concentration o f 78 mg/kg, less than the sediment risk-based cleanup level established for South of Runway 18/36. However, these cleanup levels may not correlate to risks associated with the Former Power Plant site; therefore site-specific risk-based endpoint criteria may need to be developed to determine if surface water or sediment are being impacted by onsite contamination at unacceptable levels of risk.

Additional site characterization was performed in 2010 to improve delineation of the extent of petroleum-impacted soils in support of a proposed focused soil excavation adjacent to East Canal. The intent of the proposed excavation was to remove the bulk portion of petroleum-impacted soil that is in proximity to the

East Canal, as an enhancement to the ROD-specified MNA remedy, creating a natural attenuation zone for groundwater. A decision for a remedy enhancement has yet to be made.

DRO analyses were conducted on 32 soil samples collected from 15 soil boring locations at the site during the 2010 investigation. DRO concentrations exceed the ADEC cleanup level of 230 mg/kg in three samples from three locations (01-154, 01-155, and 01-159). Exceedances were present in 2010 soil samples collected from locations 01-154 at 7.5 feet bgs, 01-155 at 7.5 and 10 feet bgs, and 01-159 at 12.5 feet bgs. These results were considered along with historical analytical data to identify the lateral and vertical extent of DRO concentrations in soil.

Former Power Plant Building (T-1451) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

MNA of groundwater, surface water protection of East Canal using oil absorbent booms, and monthly IC inspections.

Monitoring Types:

- [x] Groundwater Monitoring
- [x] Surface Water Monitoring
- [x] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection — Click to View ICMP Table
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater, surface water, and sediment

Current Analytes Sampled NAPs, DRO, PAHs, BTEX, product thickness

Current Monitoring Click to View Current Monitoring **Monitoring File:** FormerPowerPlant_MonCurr.pdf

Former Power Plant Building (T-1451) OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
01-118	MNA	Groundwater
1999	Total and dissolved lead (quarterly - 2 rounds)	
2000	Total and dissolved lead (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs, total and dissolved lead	
2002	GRO, GRO fractions, BTEX, DRO, DRO fractions, RRO, NAPs, total and dissolved lead	
2003	DRO, RRO, NAPs	
2004	DRO, RRO, NAPs	
2005	DRO, RRO	
2006	DRO, RRO	
2007	DRO, RRO	
2008	DRO, RRO	
2009	DRO, NAPs	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
01-150	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	DRO, RRO, NAPs	
2004	DRO, RRO, NAPs	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO	
2009	DRO, NAPs	
2010	DRO	

Former Power Plant Building (T-1451) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
01-151	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	DRO, RRO, NAPs	
2004	DRO, RRO, NAPs	
2005	DRO	
2006	DRO	
2007	DRO, TAH, TAqH	
2008	DRO, TAH, TAqH	
2009	DRO, TAH, TAqH, NAPs	
2010	DRO, TAH, TAqH	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-701	MNA, NAPs background	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, GRO, BTEX, NAPs	
2005	NAPs	
2006	NAPs	
2007	NAPs	
2008	NAPs	
2009	NAPs	
2010	Monitoring not planned	

Former Power Plant Building (T-1451) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-08	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	Monitoring not planned
2010	Surface water: DRO, TAH, TAqH Sediment: DRO, PAHs

SUMMARY OF INSPECTION RESULTS:

The inspections in August and September 2010 found that the site has had some activity since the 2009 inspection. Authorized excavation activities associated with soil boring installation as part of additional site characterization activities were conducted during summer 2010. There were no indications that groundwater was being used. The five-year review inspection in August 2010 confirmed these findings. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

8, 29, 31, 34, 39, 41, 44, 52, 62, 74, 84, 89, 90, 91, 112, 118, 125, 129, 132, 134

GCI Compound (UST GCI-1) **OU A - SAERA**

GCI Compound (UST GCI-1) OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

The GCI Compound is located in downtown Adak west of Main Road, approximately 600 feet southwest of the intersection of Main Road and Terminal Road, west of the high school and east of the air terminal building. The site was previously used by the Navy as a gasoline and motor pool facility, but now is a long-distance telecommunications transmitter and receiver facility. UST GCI-1 was a 6,000-gallon steel tank buried about 40 feet northwest of the site of a former fuel dispenser island at the GCI Compound, and presumably supplied fuel to the dispenser island.

The ground surface at the GCI Compound consists of a level gravel lot with patches of grass within the fenced enclosure and an extensive level area covered with native grasses outside the fenced area. East Canal is the closest surface water body, located approximately 1,000 feet southwest of the site.

In 1992, an investigation conducted for the 6-inch JP-5 Main Road Pipeline included collecting five soil samples and one groundwater sample from MRP-9. DRO analytical results from one soil sample exceeded the ADEC 18 AAC 75 criterion.

Former UST GCI-1 and the associated piping were removed in April 1995. During tank removal activities, a previously unknown pipeline believed to be a remote supply/fill pipe separated from the tank, and about 2,000 gallons of water and unknown-type of petroleum residuals discharged into the excavation. Approximately 90 percent of the released liquid was recovered prior to backfilling the excavation. The pipe was plugged and left in place. DRO was detected at concentrations exceeding the ADEC matrix level in two samples collected during the UST removal, and GRO was detected in one sample at a concentration greater than the ADEC matrix level. The UST appeared to be in good condition when removed.

Nine 2-inch monitoring wells and two soil borings were installed at the site in 1996. DRO and GRO exceeded ADEC 18 AAC 75 soil cleanup levels in one of two soil samples. Exceedances of groundwater criteria also were noted in two wells for DRO and in seven wells for GRO collected in 1996. An additional four soil borings were installed above the groundwater table at the facility to determine oxygen gradients in the subsurface soil in 1997. Two 0.5-inch monitoring wells also were installed in 1997. DRO concentrations in one soil sample collected in 1997 exceeded the soil cleanup criterion. Three monitoring wells were resampled in 1997, and exceedances of groundwater criteria were noted in one well for DRO and in three wells for GRO.

An additional monitoring well (04-701) was installed in 1998 to be used for sentinel monitoring during comprehensive monitoring activities. Wells 04-203 and 04-701 were sampled for groundwater in 1998. No exceedances of either soil or groundwater criteria were noted in samples collected from well 04-701; however, DRO and GRO concentrations were above their respective cleanup levels in well 04-203. Comprehensive monitoring results from well 04-701 in the 1999-2000 season yielded concentrations of DRO and GRO near their respective detection limits.

Free product was first observed in well 04-201 in October 1996 and later measured in well 04-202 in

October 1997. Less than 5 gallons of product were recovered from passive skimmers installed for two to three months during 1997. Between 1997 and 2004, the Navy gauged the wells at the site periodically for the presence of free product. Free product recovery activities ceased in 2004.

While ADEC did not specifically concur with the cessation of the product recovery efforts at the GCI Compound, ADEC has been involved and concurred with subsequent decisions made regarding this site.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	25
Number of Pre-Rod Samples	96
Potential Contaminat Types Evaluated	Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Excavation, Monitoring well, Pipeline

GCI Compound (UST GCI-1) OU A - SAERA

COCs AND RISKS:

The GCI Compound was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery. The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD).:

<u>Groundwater</u>

- Benzene
- GRO
- Lead

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the additional evaluation under SAERA. This site poses no unacceptable risk to human health or the environment above target health goals, provided that Ics remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at the GCI Compound is considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for this site are those specified in Table C of 18 AAC 75.345(b)(1). Sampling results for the NORPAC Hill Seep Area indicated that petroleum-related compounds have not been detected in surface water at the site; therefore, water quality criteria for surface water have been met at the NORPAC Hill Seep Area site.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established the following cleanup levels based on ADEC regulatory criteria for the following COCs:

<u>Groundwater</u>

- Benzene
- DRO
- GRO

RAOs:

The OU A ROD for the petroleum site GCI Compound (UST GCI-1) established the following original RAO for the GCI Compound (UST GCI-1) on Table 7-4 of the OU A ROD.

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below Alaska DEC groundwater cleanup levels.
- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery and ICs with final remedy selection under SAERA. This remedy was implemented in 1999.

A decision document for final remedial action for the petroleum sites with no unacceptable risk was signed May 20, 2005. The decision document identifies MNA monitoring and ICs as the final remedy. Monitoring activities commenced in 2005.

The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including the GCI compound.

GCI Compound (UST GCI-1) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Free product recovery was discontinued in June 2010.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — **Click to View ICMP Table**
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled GRO, benzene, NAPs, product thickness

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** GCICompound_MonCurr.pdf

GCI Compound (UST GCI-1) — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-895	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	Discontinued monitoring this background well	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-100	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, GRO, BTEX, NAPs	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	GRO, benzene, NAPs	
2010	GRO, benzene	

GCI Compound (UST GCI-1) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-201	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Product thickness
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-202	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	DRO, GRO, BTEX
2003	Monitoring not planned
2004	Monitoring not planned
2005	Free product detected, not sampled
2006	Free product detected, not sampled, product thickness (monthly)
2007	Free product detected, not sampled, product thickness (monthly)
2008	GRO, BTEX, product thickness (monthly)
2009	GRO, benzene, NAPs, product thickness (monthly)
2010	GRO, benzene, product thickness (monthly)

GCI Compound (UST GCI-1) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-203	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Product thickness
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-204	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Product thickness
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	DRO, GRO, BTEX
2007	GRO, BTEX
2008	GRO, BTEX
2009	GRO, benzene, NAPs
2010	DRO, GRO

GCI Compound (UST GCI-1) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-207	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Product thickness
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-210	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	DRO, GRO, BTEX
2003	Product thickness
2004	Monitoring not planned
2005	GRO, BTEX
2006	GRO, BTEX
2007	GRO, BTEX
2008	GRO, BTEX
2009	GRO, benzene, NAPs
2010	GRO

GCI Compound (UST GCI-1) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-211	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Product thickness
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-213	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Product thickness
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	DRO, GRO, BTEX
2007	GRO
2008	GRO
2009	GRO, NAPs
2010	GRO

GCI Compound (UST GCI-1) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-701	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	GRO, BTEX, NAPs	
2004	GRO, BTEX, NAPs	
2005	GRO, BTEX	
2006	GRO, BTEX	
2007	Product thickness	
2008	GRO, benzene (even years only)	
2009	NAPs	
2010	GRO, benzene (even years only)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MRP-MW9	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Product thickness	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	DRO, GRO, BTEX	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

SUMMARY OF INSPECTION RESULTS:

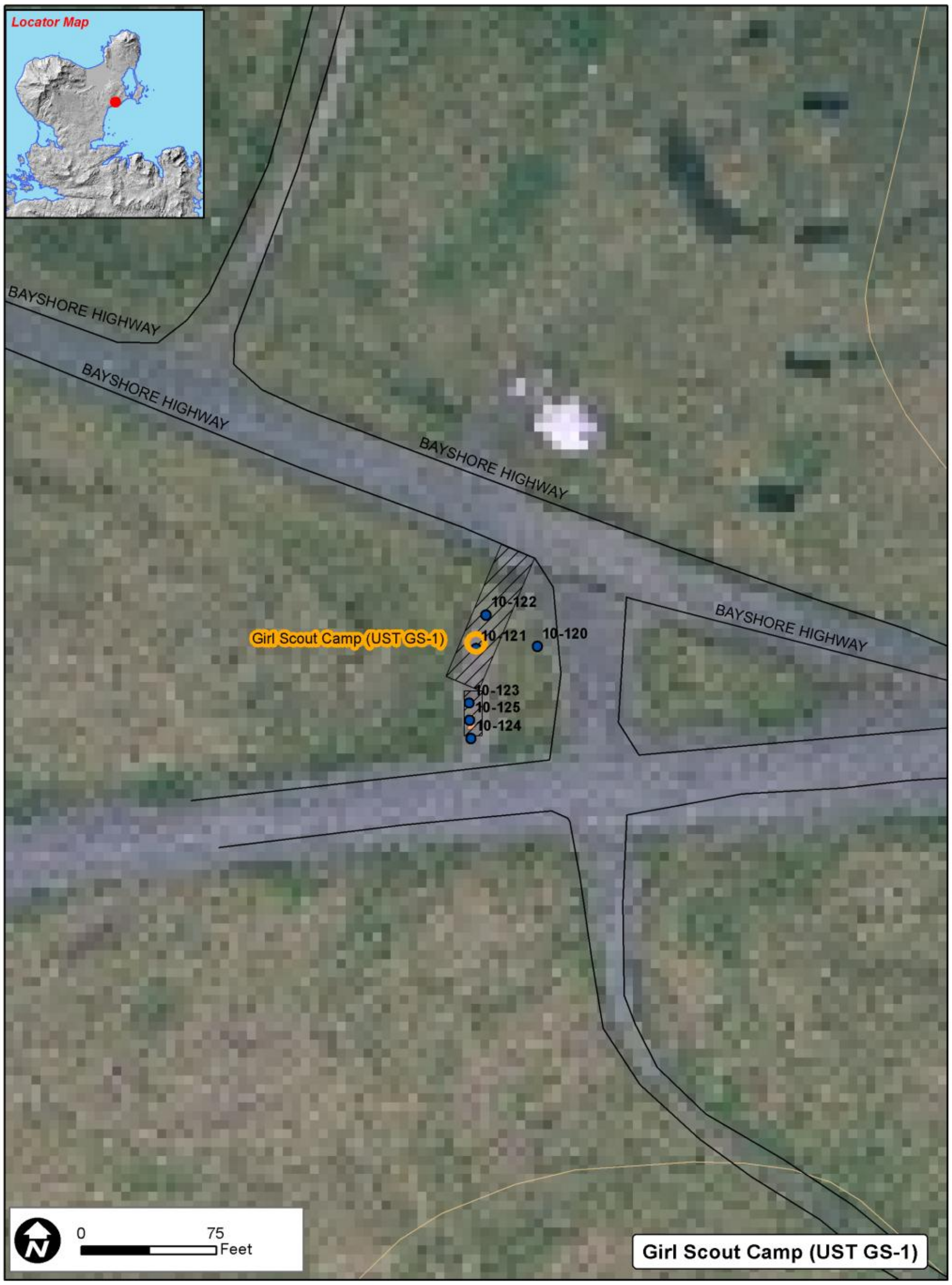
The inspection in September 2010 found that the site has had no apparent activity since the last inspection. No indications that groundwater was being used or indications of excavation activities were found. The five-year review inspection in August 2010 confirmed these findings. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 31, 34, 39, 41, 44, 52, 62, 69, 74, 77, 84, 90, 91, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

Girl Scout Camp (UST GS-1) — OU A - SAERA



Girl Scout Camp (UST GS-1) OU A - SAERA

STATUS: NFA in 2005, with ADEC concurrence.

BACKGROUND:

The former Girl Scout Camp was located 2 miles northeast of downtown Adak and Runway 5-23. This site, which was used by the 349th Engineers Regiment in the 1940s, included several Quonset huts and other buildings that have since been removed. One cabin that is still in place at the site was used to house Girl Scouts in the mid- to late 1980s. The former Girl Scout Camp site lies in a relatively flat area surrounded by hills and swales. The closest year-round water body, Palisades Lake, is located about 390 feet northeast of the source area.

A UST (UST GS-1) formerly present at the site is thought to have been installed between 1945 and 1947. The UST was used for storing JP-5 for heating buildings that have since been removed. The 850-gallon wooden UST showed signs of moderate weathering when it was removed in August 1993. Records indicating releases or tank-tightness reports were not available for this tank. The two soil samples collected from the excavation floor at a depth of 7 feet bgs had DRO concentrations that exceeded ADEC Method One soil cleanup levels. Therefore, an additional investigation was required.

During the additional site investigation conducted in 1996 and 1997, one 2-inch diameter groundwater monitoring well and three soil borings were installed. In addition, a staff gauge was installed at Palisades Lake. Surface and subsurface soil, groundwater, and surface water samples were collected. DRO concentrations exceeded ADEC soil cleanup levels in one subsurface soil sample and two surface soil samples. DRO, GRO, and BTEX were not detected in groundwater samples. DRO was detected at a maximum concentration of 1,300 µg/L in surface water.

When well 10-120 was resampled in 1998, the DRO concentration was below the ADEC cleanup criteria. DRO concentrations ranged from 380 to 580 µg/L in the two surface water samples collected in 1998.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	11
Number of Pre-Rod Samples	20
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water
Types of Pre-ROD Locations	Direct Push/Geoprobe, Excavation, Ground surface, Monitoring well, Vault, Wetlands

Girl Scout Camp (UST GS-1) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Girl Scout Camp (UST GS-1) established the following RAO for the Girl Scout Camp (UST GS-1) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

In 1999, approximately 192 cubic yards of in-place soil containing petroleum-related compounds at concentrations exceeding ADEC Method Two soil cleanup levels were removed from the site for treatment and disposal. DRO, GRO, and RRO concentrations from all but one sample of soils remaining on site are below ADEC Method Two soil cleanup levels for the over-40 inch rainfall zone and protection of migration to groundwater.

Although analyses of one soil sample produced a DRO concentration (250 mg/kg) slightly above the ADEC Method Two cleanup level (230 mg/kg), little or no impact from this minor exceedance is anticipated. All concentrations of other petroleum-related compounds were below ADEC soil cleanup levels. In addition, groundwater is not considered a continuous transport pathway from the Girl Scout Camp site to Palisades Lake, because the site is situated on tephra.

With ADEC concurrence, the site status was designated as NFA in 2005.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including Girl Scout Camp. No ICs specific to the Girl Scout Camp site were established in the OU A ROD, and IC site inspections are not required for this site in the ICMP.

Girl Scout Camp (UST GS-1) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☐ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☑ None Required

Most Recent Sampling Date July 1999 **Most Recent Inspection Date:** 1999

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Girl Scout Camp (UST GS-1) OU A - SAERA

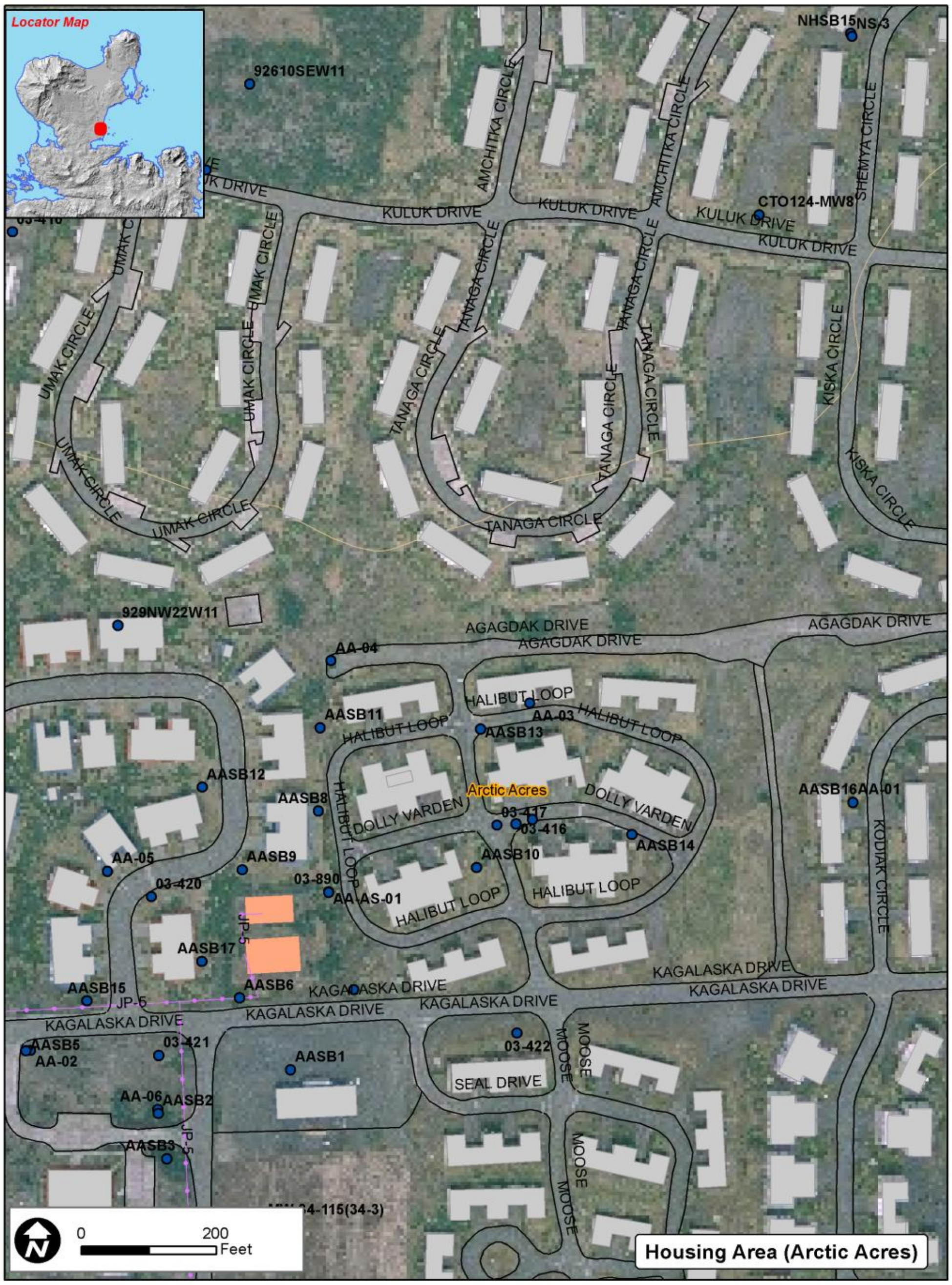
SUMMARY OF INSPECTION RESULTS:

Girl Scout Camp was not one of the sites selected for inspection during the 2010 five-year review. Girl Scout Camp is a no further action site that did not appear likely to be revised to an action site based on ARAR changes.

BIBLIOGRAPHY:

3, 28, 55, 62, 84

Housing Area (Arctic Acres) OU A - SAERA



Housing Area (Arctic Acres) OU A - SAERA

STATUS: Groundwater monitoring and IC inspections.

BACKGROUND:

The Housing Area (Arctic Acres) site is located in downtown Adak, east of Main Road and north of Kagalaska Drive. The site consists of 10 duplex housing units, paved roads, and flat gravel areas constructed in 1975. All housing units have been vacant since at least early 1996. Heating fuel (JP-5) was formerly delivered to each unit through underground pressurized ¾-inch steel pipelines connected to two 27,000-gallon steel ASTs. The ASTs lie west of the housing area and receive their fuel from the Main Road Pipeline. The site is drained by roadside ditches and storm drains that flow toward Kuluk Bay. Groundwater elevations measured at the site indicate that groundwater flows towards Kuluk Bay, approximately 1,000 feet to the east, on the eastern portion of the site and toward the East Canal, approximately 3,550 feet to the west, on the western portion of the site.

During a routine pipeline test in August 1993, investigators discovered that JP-5 had been released from the pipeline. Ten leaks caused by corrosion were found along a 150-foot length of pipeline running in an east-west direction under Dolly Varden Drive between Buildings 27055 and 27054 and Building 27058. The combined leak rate was estimated at 7.5 gallons per hour, but it was not known how long the pipeline had been releasing product. Therefore, the total volume released was unknown. The fuel line was repaired within one day of the discovery of the leaks.

During the limited investigation of the pipeline leak conducted in August 1993, monitoring well AAMW-E298-1 was installed south of the repaired fuel line. DRO was detected at a concentration of 14,000 mg/kg in the sample collected from the AAMW-E298-1 boring. Free product (0.71 foot) was measured in the well in August 1993. When the well was inspected in February 1996, no free product was observed.

Two monitoring wells were installed west of well AAMW-E298-1 in 1996. DRO, GRO, and BTEX were not detected in the soil. DRO concentrations in groundwater samples collected from the three wells ranged from 2,500 to 12,700 μg/L. Free product was not detected in any of the wells during quarterly monitoring activities in 1996 and 1997.

In 1998, monitoring well 03-890 was installed approximately 500 feet west of the former leak. DRO was detected at a concentration of 34,000 mg/kg in the soil sample collected from the 03-890 soil boring. Exceedances of the Alaska DRO groundwater cleanup criterion were noted in both wells. The GRO concentration from the groundwater sample collected from well 03-890 also exceeded the ROD-established Alaska 18 AAC 75.345 Table C value.

In 1999, three monitoring wells (03-420, 03-421, and 03-422) were installed approximately 250 feet west of well 03-890, approximately 300 feet southwest of well 03-890, and approximately 300 feet south of well 03-416, respectively. DRO concentrations from the five soil samples collected from wells 03-420 and 03-421 exceeded the ROD-established ADEC 18 AAC 75 soil cleanup criterion. DRO was detected at levels barely above the detection limit in soil samples collected from well 03-422.

Housing Area (Arctic Acres) OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	4
Number of Pre-Rod Samples	11
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Monitoring well, Well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (Table 10-3 of the OU A ROD):

Groundwater

- Benzene
- DRO
- GRO

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Housing Area (Arctic Acres) established the following RAO for the Housing Area (Arctic Acres) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA and ICs.

Natural attenuation groundwater monitoring for this site began in 1999 and is ongoing. Product recovery was initiated at wells 03-421 and 03-890 in 2000 and continued until November 2002. Six new wells (AA-01 through AA-06) were installed in 2001. Limited monitoring was initiated at four of these wells in 2002. As required by the latest version of the CMP, the presence or absence of free product is assessed prior to groundwater sampling at each well. If free product is observed, decisions are made based on the measured free product thickness as to whether free product removal is warranted, and whether groundwater samples should be collected.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including Arctic Acres.

Housing Area (Arctic Acres) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☑ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection — Click to View ICMP Table
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled DRO, NAPs, product thickness

Current Monitoring Click to View Current Monitoring **Monitoring File:** ArcticAcres_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-416	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	DRO, GRO, BTEX	
2002	Monitoring not planned	
2003	DRO, RRO, NAPs	
2004	DRO, RRO, NAPs	
2005	Monitoring not planned	
2006	DRO (even years only)	
2007	Monitoring not planned	
2008	DRO (even years only)	
2009	NAPs	
2010	DRO (even years only)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-420	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, RRO, NAPs	
2004	DRO, RRO, NAPs	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO	
2009	DRO, NAPs (odd years only)	
2010	Product thickness	

Housing Area (Arctic Acres) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-421	MNA	Groundwater

1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2001	GRO, GRO fractions, BTEX, DRO, RRO
2002	GRO, BTEX, DRO, RRO, NAPs
2003	Monitoring discontinued
2005	Free product detected, not sampled
2006	Free product detected, not sampled
2007	Free product detected, not sampled
2008	Free product detected, not sampled
2009	DRO, NAPs
2010	DRO

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-422	MNA	Groundwater

1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2001	GRO, GRO fractions, BTEX, DRO, RRO
2002	GRO, BTEX, DRO, RRO, NAPs
2003	Met endpoint criteria; monitoring discontinued
2010	DRO

Housing Area (Arctic Acres) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-890	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Discontinued due to potential product	
2004	Monitoring not planned	
2005	Free product detected, not sampled	
2006	Free product detected, not sampled	
2007	Free product detected, not sampled	
2008	Free product detected, not sampled	
2009	DRO, NAPs	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AA-01	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	DRO, DRO fractions, RRO, NAPs	
2003	DRO, RRO, NAPs	
2004	DRO, RRO, NAPs	
2005	Monitoring not planned	
2006	DRO (even years only)	
2007	Met endpoint criteria; monitoring discontinued	

Housing Area (Arctic Acres) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AA-02	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	DRO, DRO fractions, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AA-05	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AA-06	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	
2010	DRO	

SUMMARY OF INSPECTION RESULTS:

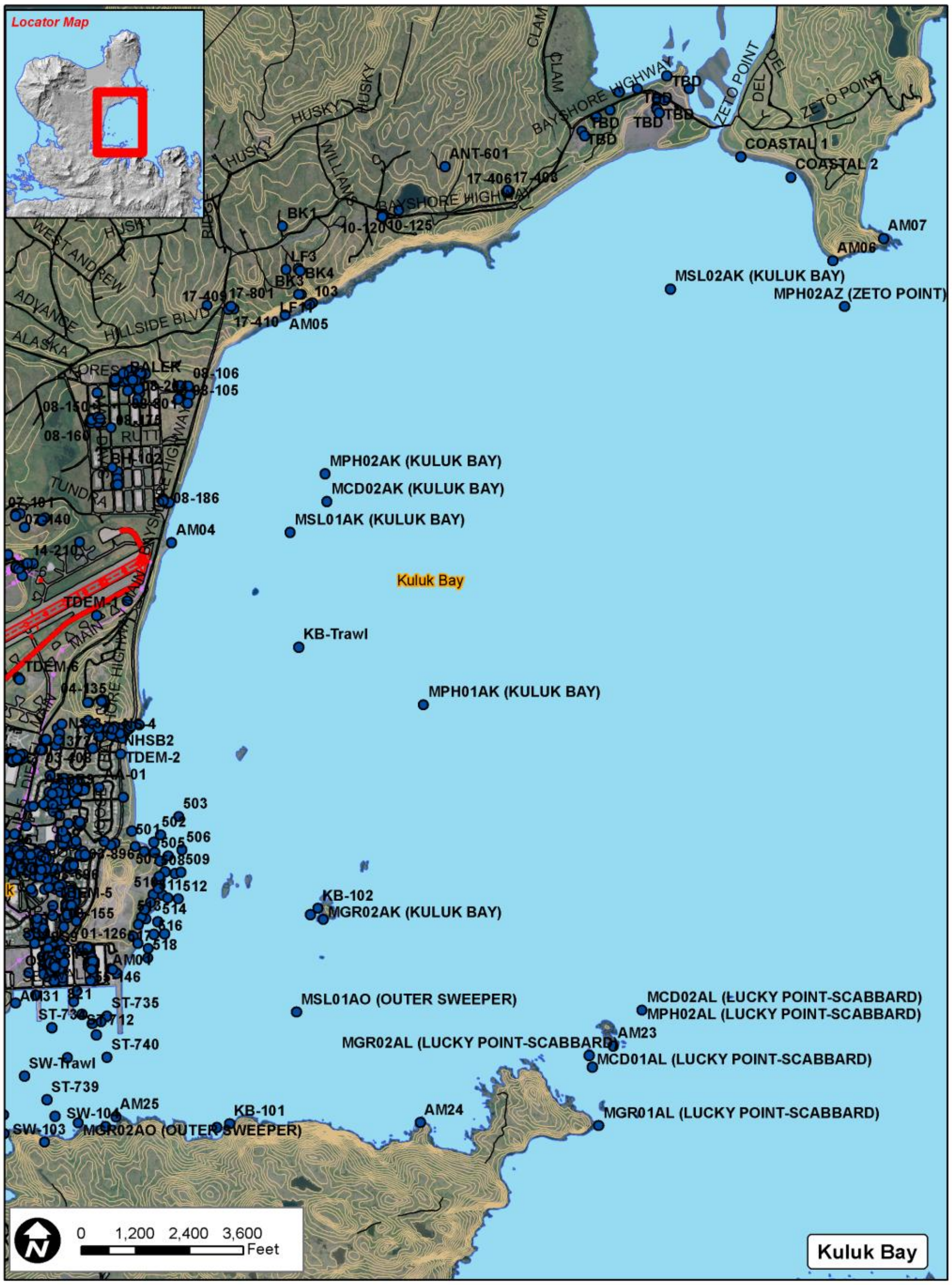
The annual IC inspections in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. These results were confirmed by the August 2010 Five-Year Review site inspection.

BIBLIOGRAPHY:

29, 31, 34, 39, 41, 44, 52, 62, 81, 84, 90, 91, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

Kuluk Bay — OU A



Kuluk Bay — OU A

STATUS: IC inspections and biannual long term monitoring of tissues.

BACKGROUND:

Kuluk Bay borders the most developed portion of Adak Island; both industrial and residential areas are located along its western shore. The Bayshore Highway runs along the shore of Kuluk Bay from the mouth of Sweeper Cove to the mouth of Clam Lagoon, affording easy access. The western shoreline of Kuluk Bay with its sandy beach is easily accessed by foot. Access to the northern and southern shorelines is limited, because of the steep cliffs and rocky shoreline.

Kuluk Bay is used primarily for recreational purposes, which include beachcombing, fishing, and shellfishing. Recreational opportunities for island residents include walks along the sandy beach and exploration of the rocky shorelines. Fishing from shore along the breakwater separating Sweeper Cove and Kuluk Bay for a variety of resident fish is common. Runs of pink salmon that occur in August and September in NAVFAC and Airport Creeks also attract onshore fishermen. Fishing by boat in Kuluk Bay for a variety of resident fish, including halibut, is expected to occur. Shellfishing in Kuluk Bay has not been previously documented. However, shellfish resources with potential uses are present. Extensive mussel beds that could be harvested are present along the rocky shoreline during low tide. The presence of other bivalves in subtidal sediments appears to be very limited.

Analytical results of sediment, surface water, rock sole, and blue mussels collected in 1995 and 1996 were used in a risk assessment specific to Kuluk Bay.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	5
Number of Pre-Rod Samples	9
Potential Contaminat Types Evaluated	Biological, Metals
Pre-ROD Sample Matrix Types	Sediment , Tissue
Types of Pre-ROD Locations	Intertidal

Kuluk Bay OU A

COCs AND RISKS:

The following fish and shellfish COC was identified in the OU A ROD because of exceedance above action levels based on risk-based levels (Table 7-3 of the OU A ROD):

Fish and Shellfish

- Aroclor 1254

The Aroclor 1254 action levels exceeded by Kuluk Bay fish and shellfish were 0.0065 mg/kg and 0.031 mg/kg, respectively (Table 7-3 of the OU A ROD). The 1997 Kuluk Bay Risk Assessment evaluated ecological and human health risks using exposures based on current and future recreational use and future subsistence use of Kuluk Bay. Analytical results of sediment, surface water, rock sole, and blue mussels collected in 1995 and 1996 were used in the risk assessment. The most significant risks were identified for subsistence harvesters consuming fish and shellfish from Kuluk Bay. The cancer risks for the subsistence seafood harvester was primarily due to Aroclor 1254 (with a cancer risk of 5 E-05 and hazard index of 4 for fish , Table 6-5 of the OU A ROD) and arsenic (with a cancer risk of 6 E-05 for blue mussel). Arsenic risks are most likely overestimated because arsenic concentrations are mostly at background levels, therefore no cleanup levels were established for arsenic. The cleanup levels for total PCBs are 0.0065 mg/kg and 0.031 mg/kg for ingestion of fish and shellfish, respectively. These cleanup levels are risk based concentrations and were derived using exposure parameters presented in the OU A ROD for subsistence fishers with a carcinogenic risk threshold of 1 E-05 and noncancer hazard index in excess of 1.0. It was estimated at the time of the ROD that it may take up to 75 years for tissue concentrations to reach the proposed cleanup levels. The text regarding risk assessment results for Kuluk Bay is from the OU A ROD.

RAOs:

The OU A ROD for the CERCLA site Kuluk Bay established the following RAOs for Kuluk Bay (pages 7-9 and 10-4 of the OU A ROD):

- Protection of subsistence fishers from ingestion of fish and shellfish containing chemicals that present a cancer risk in excess of 1 E-05 and a noncancer hazard index in excess of 1.0.

REMEDY IMPLEMENTATION:

The selected remedy for Kuluk Bay is ICs, including a fish consumption advisory, comprehensive monitoring of rock sole tissue, and public education.

Annual monitoring began in 1999 and continued through 2003. Since 2003, monitoring has been conducted every other year and is ongoing. The ICs were implemented following execution of the ROD in April 2000.

Kuluk Bay — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Additional ROD objectives include 1) documenting temporal change in PCB concentrations in mussels and fish in Sweeper Cove and Kuluk Bay following cleanup of known terrestrial source areas and the contaminated sediment in South Sweeper Creek, and 2) determine the date for rescinding ICs advising subsistence and commercial seafood harvesters in Sweeper Cove and Kuluk Bay.

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [x] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection — Click to View ICMP Table
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date June 2009 **Most Recent Inspection Date:** August 2010

Current Media Sampled Marine Tissue

Current Analytes Sampled PCBs, lipids

Current Monitoring Click to View Current Monitoring **Monitoring File:** KulukBay_MonCurr.pdf

Kuluk Bay — OU A

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
All Locations	Blue mussel & rock sole LTM	Marine tissue
1999	PCB congeners, lipid analysis, moisture content	
2000	PCB congeners, lipid analysis, moisture content	
2001	PCB congeners, lipid analysis, moisture content	
2002	PCB congeners, lipid analysis, moisture content	
2003	PCB congeners, lipid analysis, moisture content	
2004	Monitoring not planned	
2005	PCB congeners, lipid analysis, moisture content	
2006	Monitoring not planned	
2007	PCB congeners, lipid analysis, moisture content	
2008	Monitoring not planned	
2009	PCB congeners, lipid analysis, moisture content	
2010	Monitoring not planned	

SUMMARY OF INSPECTION RESULTS:

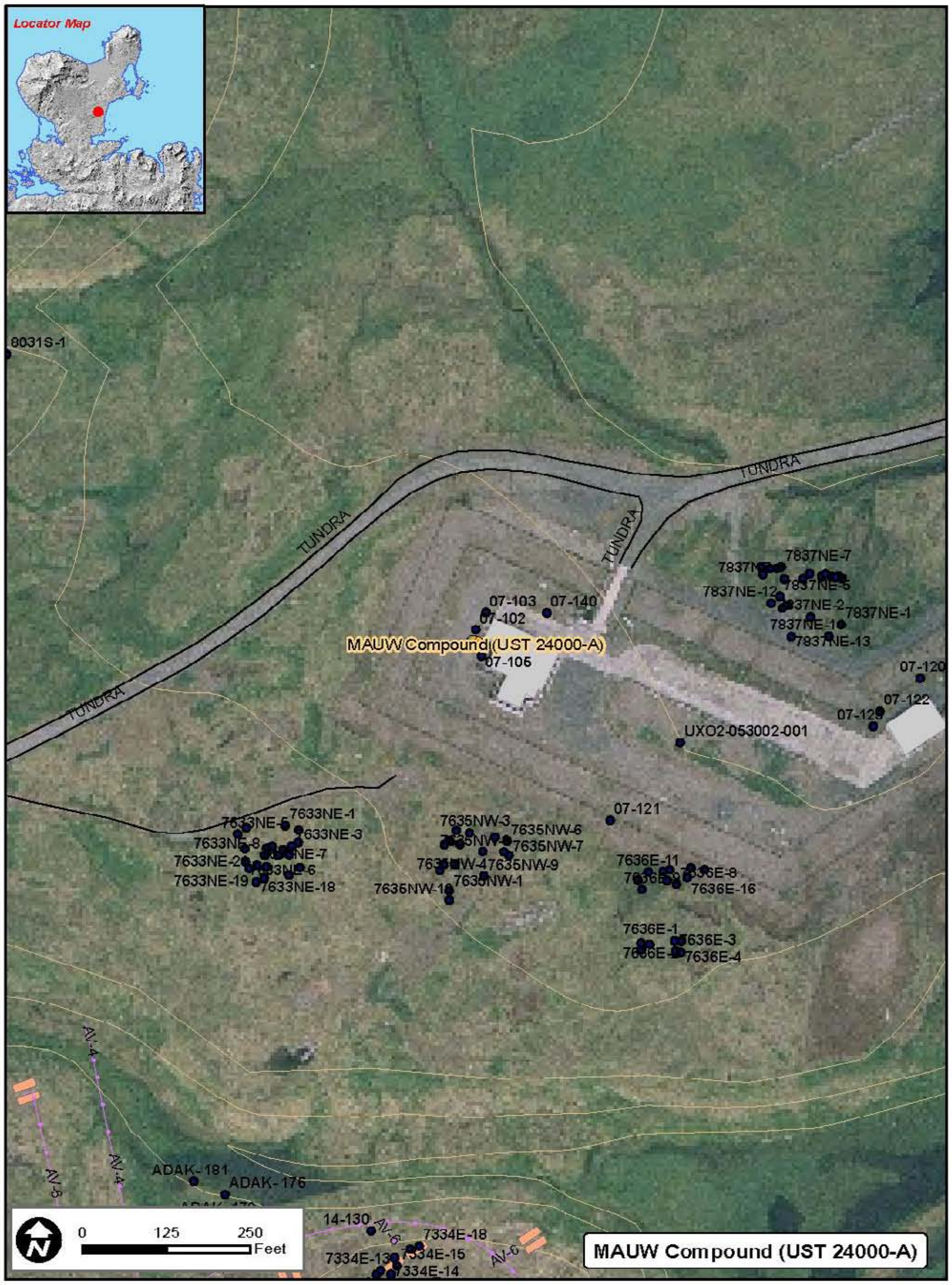
The recommendations from the 2005, 2007, and 2009 technical memoranda are for continuation of the current fish consumption advisory for rock sole in Kuluk Bay. The status of the consumption advisory will be assessed after the next sampling round scheduled for 2011.

A marine monitoring fact sheet was distributed to island residents in spring 2010 that described the results of the 2009 monitoring of the rock sole in Kuluk Bay, including the fish advisory.

BIBLIOGRAPHY:

25, 63, 65, 84, 86, 113, 125, 129

MAUW Compound (UST 24000-A)	OU A - SAERA



MAUW Compound (UST 24000-A) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence. IC inspections are required.

BACKGROUND:

The MAUW Compound is an abandoned facility located north of Runway 5-23, on the south side of Tundra Road. The facility was formerly a secured compound used for ammunition storage. Building 24000-A was the Advanced Undersea Weapons shop. UST 24000-A, installed in 1976, stored JP-5 to fuel the Building 24000 boiler and emergency generator. The ground in the immediate vicinity of the tank is flat, but the compound as a whole slopes downward to the northeast. Landrum Creek is located approximately 390 feet northeast and downgradient of the site.

The UST failed a tank-tightness test in 1993 and was taken out of service before May 1994. The UST and associated piping were removed in October 1994. The condition of the UST upon removal was not reported. No spills or releases were reported to have occurred while the UST was in operation. The source could possibly be from leaks in the tank, overfilling, or leaking pipe joints. Five of eight subsurface soil samples collected from the excavation at depths between 5 and 6.5 feet exceeded ADEC 18 AAC 75 soil cleanup criteria.

Three groundwater monitoring wells and two hand auger borings were installed in 1996. DRO and GRO concentrations from all but one of the surface and subsurface soil samples were below ADEC soil cleanup levels. No exceedances of the DRO groundwater cleanup criterion were noted, and GRO and BTEX were not detected.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	16
Number of Pre-Rod Samples	22
Potential Contaminat Types Evaluated	Petroleum hydrocarbons,Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Excavation, Hand auger, Monitoring well, Well

MAUW Compound (UST 24000-A) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

<u>Soil</u>

- DRO

RAOs:

The OU A ROD for the petroleum site MAUW Compound (UST 24000-A) established the following RAO for the MAUW Compound (UST 24000-A) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

Monitoring well 07-140 was installed in 1999 downgradient of well 07-103. DRO concentrations in soil boring 07-140 exceeded the ROD-established ADEC soil cleanup criterion. DRO concentrations in well 07-103 exceeded the ROD-established ADEC 18 AAC 75 groundwater criterion during comprehensive monitoring plan activities between 1999 and 2000. DRO was detected in well 07-140 at levels below the groundwater cleanup criterion. BTEX constituents were not detected in either well. No target analytes were detected above groundwater cleanup levels in either well in 2001. Limited groundwater monitoring activities were discontinued in 2001.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 07-101 and 07-140 to achieve NFA.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including the MAUW Compound. No ICs specific to the MAUW Compound were established in the OU A ROD; however, ICs are included for this site in the ICMP.

MAUW Compound (UST 24000-A) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection — Click to View ICMP Table
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date October 2001 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

MAUW Compound (UST 24000-A) — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
07-103	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
07-140	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	Met endpoint criteria; monitoring discontinued	

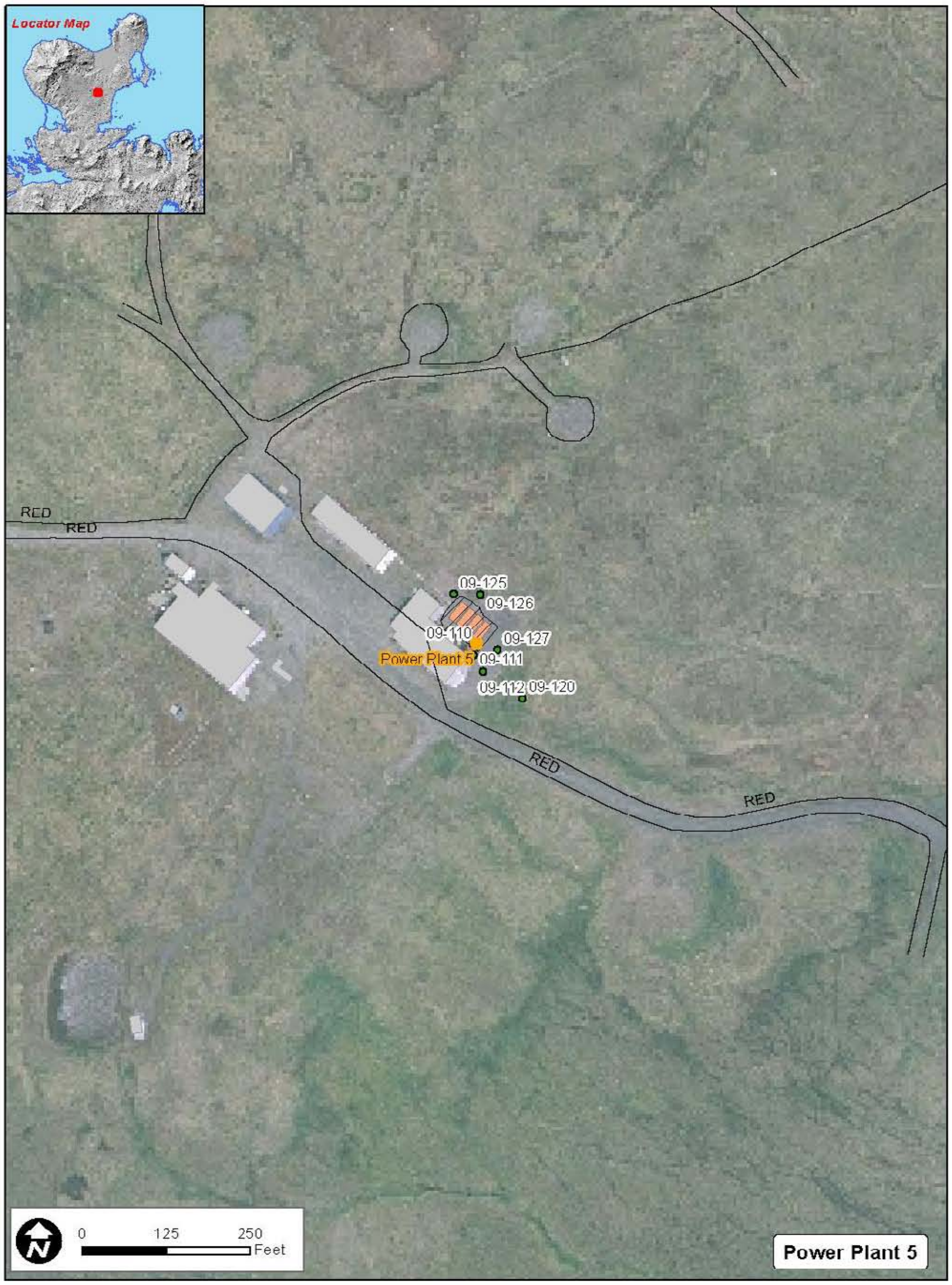
SUMMARY OF INSPECTION RESULTS:

The annual IC inspection in September 2008 discovered undocumented excavations at the site for copper salvaging operations. The annual IC inspection in September 2009 found that the site had been restored and no indications that groundwater was being used or indications of excavation activities were found. The 2010 inspections performed for the five-year review and for ICs found that the area is being used to store rental vehicles and an auto shop for the rental vehicles is located in Building 24000. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

2, 28, 52, 55, 62, 84, 91, 113, 125, 129

Mount Moffett Power Plant 5 **OU A - SAERA**



Mount Moffett Power Plant 5 OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence. IC inspections are required.

BACKGROUND:

Mount Moffett Power Plant 5 is located approximately one mile north of Runway 5-23, northwest of downtown Adak, on the north side of Red Road. Mount Moffett Power Plant 5 housed the power generators for the large antenna field located nearby. USTs 10574 through 10577 stored the supply fuel, JP-5, for the generators inside the power plant.

The general topography of the site slopes to the southeast. An unnamed creek is approximately 1,000 feet downgradient of the source area. This unnamed creek flows to the east into Landrum Creek, then into North Sweeper Creek, and finally into Kuluk Bay approximately 8,000 feet southeast of the site.

The four 20,000-gallon steel USTS were installed in 1965, approximately 20 feet northeast from the former Power Plant building. UST 10576 failed a tank-tightness test in 1993. USTs 10576 and 10577 and associated piping were removed in September 1994. USTs 10574 and 10575 and associated piping were removed later in April 1996. Stained soil was observed beneath the tanks during removal of the USTs. The tanks showed mild corrosion, but no holes were observed. The release mechanism is unknown, but could possibly be from overfilling. Groundwater was not encountered in the excavation. Twenty-seven soil samples were collected during the tank removals, and DRO concentrations from several locations exceeded the ADEC soil matrix level.

Three soil borings and one monitoring well were completed in 1996. DRO was detected in one of six samples at concentrations exceeding the ADEC soil cleanup criterion. GRO and BTEX in soil were either not detected or detected at levels slightly above the detection limit. Groundwater was not present in the monitoring well, which is located on a low-permeability, tephra-over-bedrock unit.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	37
Number of Pre-Rod Samples	46
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Excavation, Geoprobe well, Hand auger, Monitoring well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Mount Moffett Power Plant 5 (USTs 10574 through 10577) established the following RAO for the Mount Moffett Power Plant 5 (USTs 10574 through 10577) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is limited soil removal.

Approximately 60 cubic yards of petroleum-affected soil were removed from the site in 1999. DRO concentrations measured in soil remaining at the site are above the ADEC Method Two soil cleanup level for the over-40-inch rainfall zone and protection of migration to groundwater. Groundwater is not considered a complete transport pathway from the site to the downgradient surface water located 1,000 feet to the south.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 502 and 503 to achieve NFA.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including Power Plant 5. No ICs specific to Mount Moffett Power Plant 5 were established in the OU A ROD; however, ICs are included for this site in the ICMP.

Mount Moffett Power Plant 5 — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date July 1999 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett Power Plant 5 **OU A - SAERA**

SUMMARY OF INSPECTION RESULTS:

The inspection in September 2008 discovered undocumented excavations at the site for copper salvaging operations. The inspection in September 2009 found that the site had been restored. No indications that groundwater was being used or indications of excavation activities were found. The August 2010 inspection performed in support of the five-year review confirmed the September 2009 findings, but also noted the presence of metal debris near the former UST excavation. The 2010 IC report indicates ICs appear to be functioning as intended.

BIBLIOGRAPHY:

2, 28, 52, 55, 62, 84, 86, 91, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

NAVFAC Compound (USTs 20052 and 20053) OU A - SAERA

NAVFAC Compound (USTs 20052 and 20053) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

The NAVFAC Compound is located north of downtown Adak, approximately 3,200 feet north of Runway 5-23 and approximately 450 feet west of Kuluk Bay. The NAVFAC Compound was used for electronic surveillance of sonar buoys in the Pacific Ocean. USTs 20052 and 20053 were installed in 1986 to provide JP-5 fuel for heating boilers and emergency generators in the electrical power plant (Building 10528) located within the compound. These 10,000-gallon steel USTs were located approximately 30 feet west of Building 10501 and Building 10528.

The ground surface in the immediate vicinity of the site is flat and typically contains standing water during the wet season. The regional ground surface in the vicinity of the site also is flat, with little to no perceptible slope. Surface runoff from the site is minimal because the site is flat and drainage is poor. The closest downgradient surface water body is Kuluk Bay, located approximately 700 feet east of the UST source area. NAVFAC Creek is located approximately 500 feet north of the site at its closest point, and flows west to east, discharging into Kuluk Bay approximately 975 feet northeast of the site. Groundwater flow direction at the site is determined to be southeast toward Kuluk Bay, and appears to parallel NAVFAC Creek. The groundwater surface has been observed between 11 and 17 feet bgs at the site. Subsurface material observed at the site consists of fine-grained sand with an organic silt layer between 8 and 10 feet bgs in the vicinity of the former USTs. The sandy material typically possesses a high water-bearing capacity.

UST use was discontinued in June 1994. No spills or releases were reported to have occurred while the USTs were in operation. The USTs were removed in October 1994. During removal activities, DRO concentrations from 11 of 16 soil samples collected from underneath tank piping and from the excavation exceeded the Alaska Matrix Level B criterion of 200 mg/kg.

Two monitoring wells and four Geoprobe wells were installed between 1996 and 1997. DRO was detected in soil at concentrations of 22,000 mg/kg and 20 mg/kg in borings 08-101 and 08-102, respectively. DRO, GRO, and BTEX were not detected in the other four soil borings. DRO was detected in groundwater at concentrations of 9,900 µg/L and 1,100 µg/L from wells 08-101 and 08-106, respectively. Benzene also was detected in well 08-101 at a concentration of 1.2 µg/L. Well 08-101 was resampled in 1997 and 1998. Although DRO was detected at levels between 1,400 µg/L and 2,900 µg/L in well 080-101, GRO and benzene were not detected. The site was retained for further evaluation because the maximum DRO concentration in soil exceeded the ADEC matrix level and ADEC supplemental criterion (12,500 mg/kg) for industrial sites.

NAVFAC Compound (USTs 20052 and 20053) OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	39
Number of Pre-Rod Samples	51
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Excavation, Monitoring well, Well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site NAVFAC Compound (USTs 20052 and 20053) established the following RAO for the NAVFAC Compound (USTs 20052 and 20053) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

NAVFAC Compound (USTs 20052 and 20053) OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

Well 08-101 was sampled as part of the Comprehensive Monitoring Program between 1999 and 2000. DRO and GRO concentrations in groundwater were below the ROD-established ADEC 18 AAC 75.345 Table C values. Limited groundwater monitoring activities were discontinued in 2000.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 5, 7, 8, 9, 11, 31, and 101 to achieve NFA.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including NAVFAC Compound. No ICs specific to the NAVFAC Compound were established in the OU A ROD, and no ICs or inspection requirements are included for this site in the ICMP.

NAVFAC Compound (USTs 20052 and 20053) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date June 2000 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-101	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

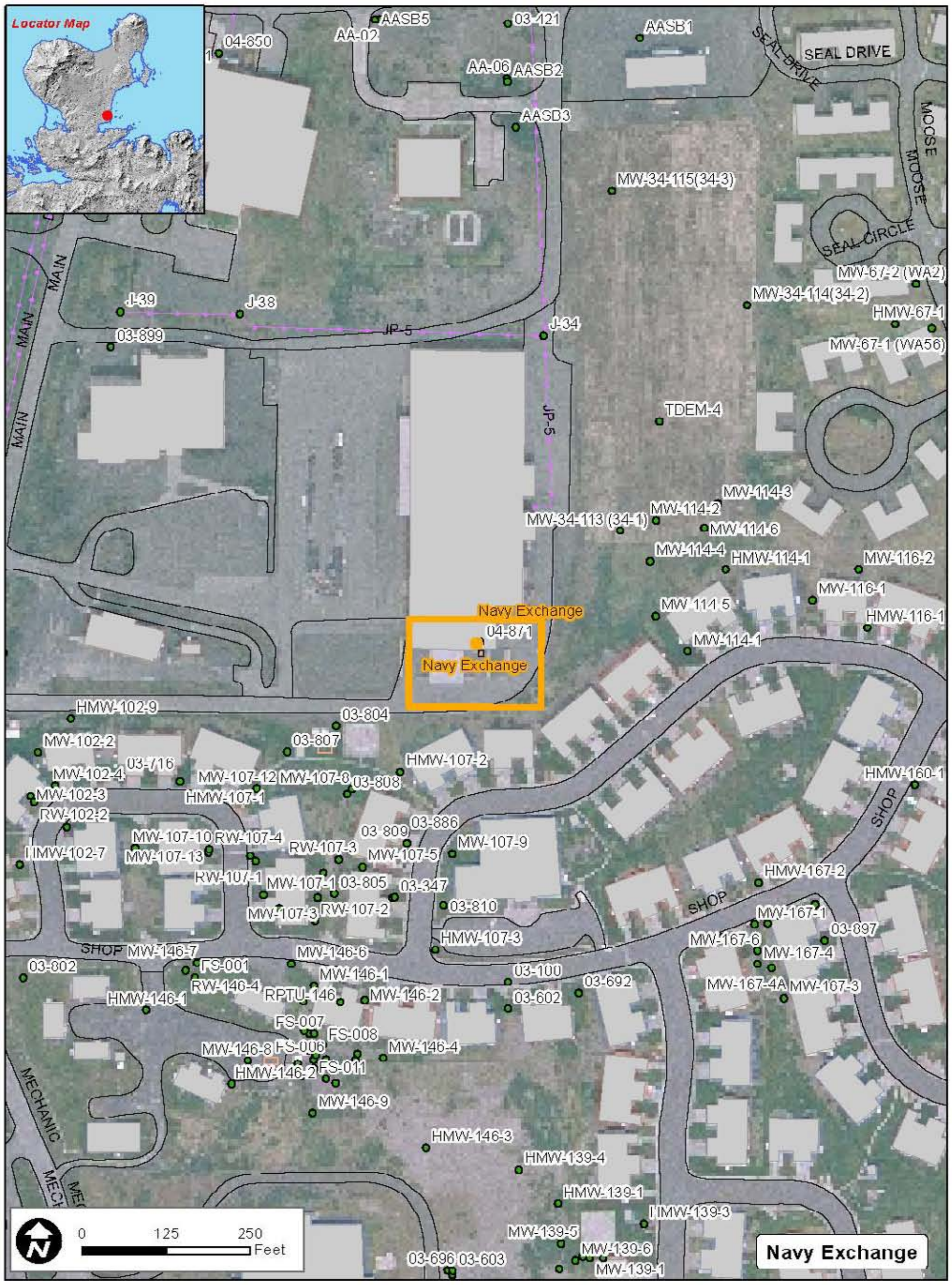
SUMMARY OF INSPECTION RESULTS:

The inspection performed in August 2010 in support of the five-year review found that the site has had no apparent activity since the last five-year review. No indications that groundwater was being used or indications of excavation activities were found.

BIBLIOGRAPHY:

2, 28, 52, 55, 62, 84

Navy Exchange Building (UST 30027-A) OU A - SAERA



Navy Exchange Building (UST 30027-A) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

The NEX Building is located in downtown Adak and is surrounded by housing areas to the east and south, the former McDonald's restaurant to the west, and the former child-care center to the north. The NEX building was constructed in 1973 and used to house the NEX commissary, gasoline service station, and vehicle maintenance garage. The 700-gallon aluminum UST 30027-A was installed in 1974 near the southeast corner of the NEX Building and stored used oil generated by the garage operations at Building 30027.

The ground surface is relatively flat in the immediate vicinity of the site and is covered by an asphalt parking lot and an open field. The closest downgradient surface water body is East Canal, located approximately 2,500 feet west of the site.

UST 30027-A was removed in August 1993. DRO and GRO were detected in the two soil samples collected from the excavation floor beneath the UST at maximum concentrations of 8,000 and 110 mg/kg, respectively. Because analytical results exceeded the DRO criterion established by ADEC, additional investigation was required.

In 1998, one soil boring was drilled near the former UST location. DRO and GRO were reported in the sample collected between 3 and 5 feet at concentrations above their respective ADEC Method Two soil cleanup criteria.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	16
Number of Pre-Rod Samples	16
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Volatile organics
Pre-ROD Sample Matrix Types	Sub-surface soil (> 6"), Water (not groundwater, unspecified)
Types of Pre-ROD Locations	Excavation, Monitoring well

Navy Exchange Building (UST 30027-A) — OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

<u>Soil</u>

- DRO

RAOs:

The OU A ROD for the petroleum site NEX Building (UST 30027-A) established the following RAO for the NEX Building (UST 30027-A) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

In 1999, approximately 37 cubic yards of petroleum-related compounds at concentrations exceeding ADEC Method Two soil cleanup levels were removed for treatment and disposal. Although DRO concentrations reported for soil remaining on site are above the ADEC Method Two soil cleanup level for the over-40 inch rainfall zone and protection of migration to groundwater, further excavation in this area is not possible because of the proximity of a building to the north and buried utilities to the south, east, and west.

Because of the inaccessibility of the remaining petroleum in soil, the site remedy shifted from limited soil removal to limited groundwater monitoring, with ADEC concurrence in 1999. At ADEC request, one monitoring well (04-871) was installed in the former UST location in 1999. Limited groundwater monitoring commenced in 1999. The site met the endpoint criteria based upon the 1999 and 2000 analytical results, and groundwater monitoring was discontinued in 2000.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 863, 864, and 865 to achieve NFA.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including the NEX Building. No ICs specific to the Navy Exchange Building were established in the OU A ROD, and no ICs or inspection requirements are included for this site in the ICMP.

Navy Exchange Building (UST 30027-A) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date June 2000 **Most Recent Inspection Date:** August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required **Monitoring File:** Not Applicable

Navy Exchange Building (UST 30027-A) OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-871	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

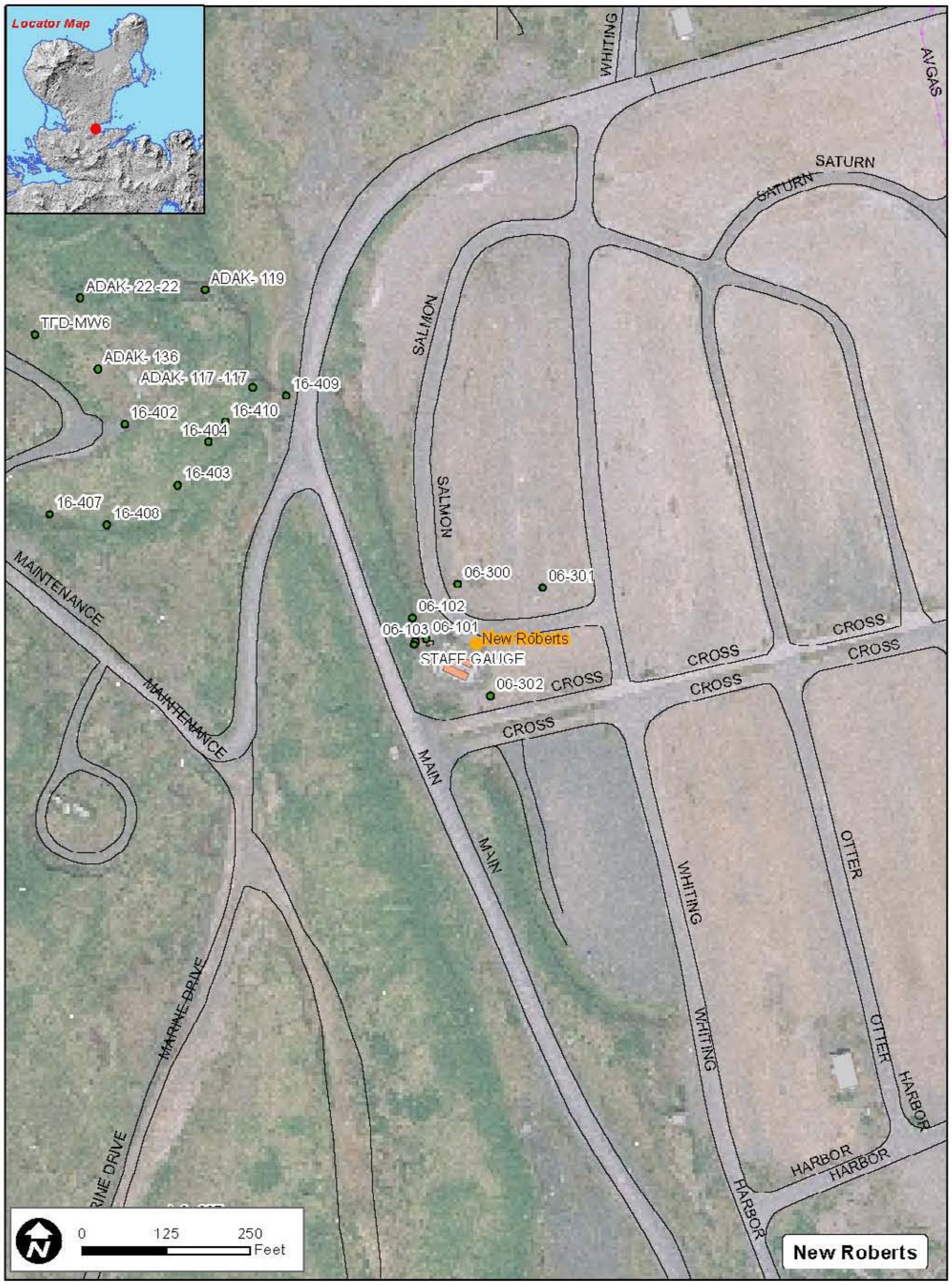
The inspection performed in August 2010 in support of the five-year review found that the site is being used as storage yard for a construction company. Miscellaneous oil and lubricants are being stored on site. No indications that groundwater was being used or indications of excavation activities were found.

BIBLIOGRAPHY:

2, 28, 52, 55, 62, 84

Environmental Restoration Site Report
Adak Island, Alaska

New Roberts Housing (UST HST-7C) **OU A - SAERA**



New Roberts Housing (UST HST-7C) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

The New Roberts Housing area is located near downtown Adak at the western end of Sweeper Cove, adjacent to the fuel pier and the small boat harbor. The former housing units that made up the New Roberts Housing area were vacated during 1998 and have all been subsequently demolished. UST HST-7C and the associated oil/water separator were installed in 1987 to serve the New Roberts Housing fuel distribution system. The fuel distribution system provided JP-5 heating fuel to the former housing area. UST HST-7C was located along the western side of the housing area, south of Salmon Circle Road and at the corner of Main Street and Cross Road.

The site is relatively flat with several depressions across the site, which allows surface water to pond during rain. The closest surface water body to the site is Helmet Creek, which is less than 10 feet west of the site. However, groundwater flows toward Sweeper Cove, which lies approximately 1,300 feet to the east. The groundwater surface has been observed between 11 and 12 feet bgs at the site. Subsurface material observed at the site consists of fine-grained sand. The sandy material typically possesses a high water-bearing capacity.

The UST, the oil/water separator, and associated piping were decommissioned and removed in April 1995. At the time of removal, the tank appeared to be in good condition, but a hole was found in the line connecting it to the oil/water separator. DRO was detected at a maximum concentration of 17,000 mg/kg in one soil sample collected from the bottom of the excavation. No records are available on petroleum releases at this facility. The release mechanisms are probably loose joints between the oil/water separator and the UST or the hole found at the time of removal in the line to the oil/water separator.

One monitoring well was installed at the site between the former tank excavation and Helmet Creek in 1996. DRO was detected in soil samples collected from the boring at concentrations ranging from 320 to 1,400 mg/kg. Two sediment and surface water samples were collected from Helmet Creek from upgradient and downgradient locations. DRO was detected at a concentration of 8.8 mg/kg in the downgradient sediment sample. DRO, GRO, and BTEX were not detected in the surface water.

Three monitoring wells were installed at the site between the former tank excavation and Sweeper Cove in 1999 when it was found that groundwater flowed to the east. DRO concentrations in monitoring well boring 06-300 exceeded the soil cleanup criterion.

New Roberts Housing (UST HST-7C) — OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	13
Number of Pre-Rod Samples	23
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Soil, Sub-surface soil (> 6"), Surface water
Types of Pre-ROD Locations	Direct Push/Geoprobe, Excavation, Monitoring well, River/stream

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site New Roberts Housing (UST HST-7C) established the following RAOs for the New Roberts Housing (UST HST-7C) on Table 7-4 of the OU A ROD:

- Mitigate potential for downgradient migration.
- Reduce petroleum concentrations in soil.

New Roberts Housing (UST HST-7C) — OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

Limited groundwater monitoring was conducted between 1999 and 2001. Target analyte concentrations in groundwater were less than ADEC groundwater cleanup levels for two consecutive sampling events during 1999 and 2000, but additional sampling was recommended for 2001 because aliphatic DRO exceeded cleanup criteria at location 06-101. Limited groundwater sampling was discontinued in 2001.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 12, 15, 101, and 06-300 to achieve NFA.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including New Roberts Housing. No ICs specific to the New Roberts Housing site were established in the OU A ROD, and no ICs or inspection requirements are included for this site in the ICMP.

New Roberts Housing (UST HST-7C) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date September 2001 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
06-101	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	Met endpoint criteria; monitoring discontinued	
LOCATION	MONITORING PURPOSE	MEDIUM TESTED
06-300	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	Met endpoint criteria; monitoring discontinued	
LOCATION	MONITORING PURPOSE	MEDIUM TESTED
06-301	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	Met endpoint criteria; monitoring discontinued	

New Roberts Housing (UST HST-7C) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
06-302	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

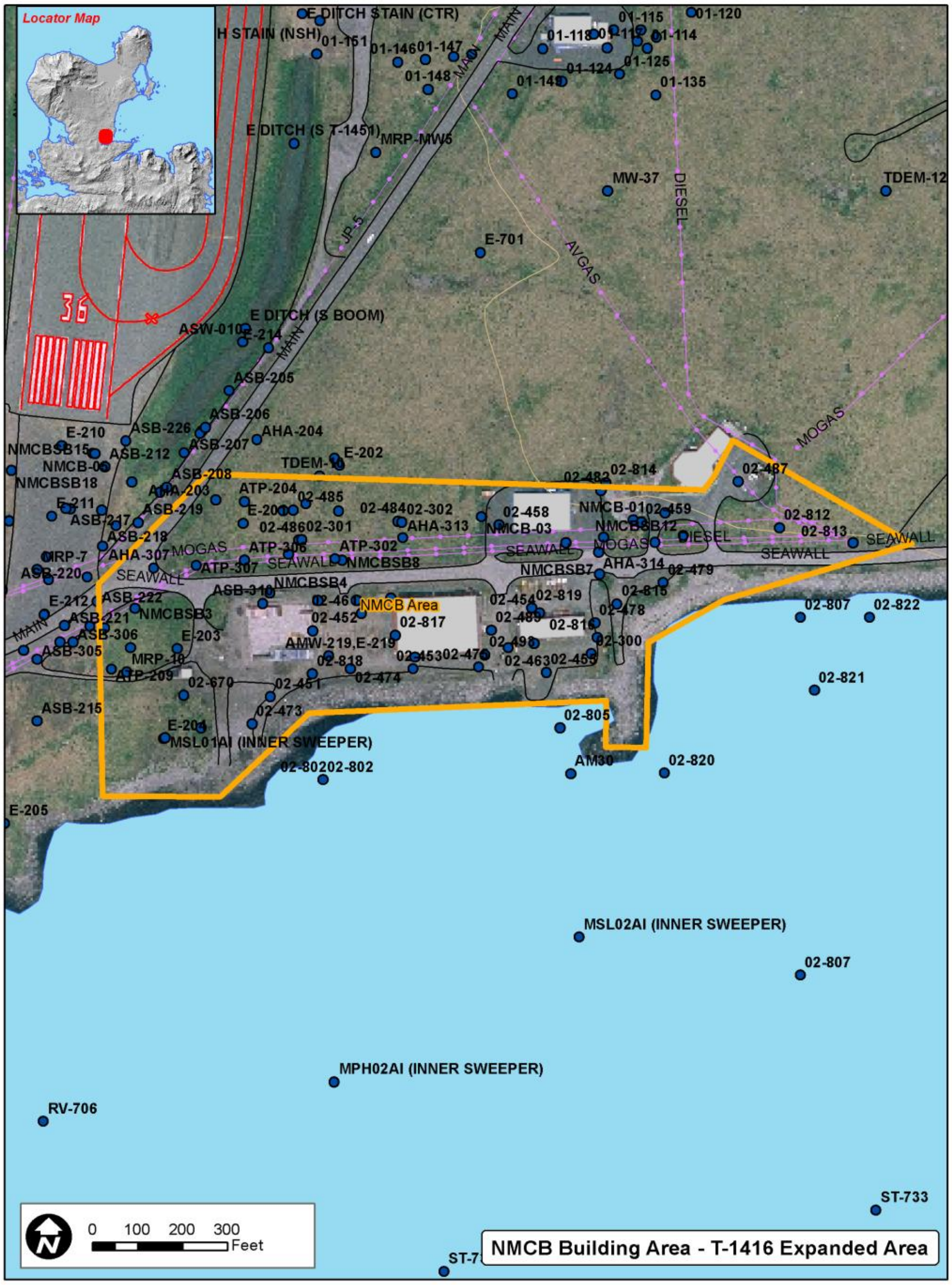
In January 2010, an oil spill from Tank Farm D during operation by the current land owner resulted in approximately 140,000 gallons of oil being released into Helmet Creek next to the New Roberts Housing. The inspection performed in August 2010 in support of the five-year review found that the site has not been affected by the spill, and was not affected by the oil spill response activities. No other sites were affected by the spill. The presence of MEC (blasting caps) at Helmet Creek resulted in a delay in responding to the Spill. Based on this delay, NAVFAC NW reestablished the process with Fort Richardson Alaska EOD and Whidbey EOD on the responsibilities and process for responding to MEC finds on Adak. Additionally, no indications that groundwater was being used or indications of excavation activities were found.

BIBLIOGRAPHY:

2, 28, 52, 62, 84, 115

Environmental Restoration Site Report
Adak Island, Alaska

NMCB Building Area - T-1416 Expanded Area **OU A - SAERA**



NMCB Building Area - T-1416 Expanded Area OU A - SAERA

STATUS: Groundwater and sediment monitoring, IC inspections, treatment system monitoring and maintenance.

BACKGROUND:

The NMCB Building Expanded Area site is located in downtown Adak on the northern shore of Sweeper Cove. The site consists of a large lowland area between the north shore of Sweeper Cove and the southern end of Runway 18-36. The site extends from the East Canal of the airport ditch system on the northwest, south to Sweeper Cove, and east approximately 2,000 feet. The site and surrounding area were used primarily for industrial purposes up to the military drawdown at Adak in the late 1990s. Three buildings were constructed in the area in the early 1940s, of which only Building T-1416 still remains at the site. The pre-engineered building, located east of Building T-1416, was constructed during 1994. The buildings and surrounding land were used as a woodworking shop, supply depot, machine shop, vehicle motor pool maintenance facility, equipment storage area, and vehicle parking area. Five docks, formerly located at the southern margin of the site, were constructed prior to 1945 and were associated with site operations. The Fish and Wildlife Building, located north of Seawall Road, formerly housed the administrative functions of the USFWS. Three abandoned underground fuel transfer pipelines cross the site.

The land that makes up the NMCB Building Expanded Area site has been extensively altered since the military first occupied Adak Island during WWII. This area was part of a back-beach lagoon prior to occupation and was rapidly converted to a fuel receipt and distribution center and industrial area to support the U.S. Aleutian campaign during WWII.

No documented releases of petroleum hydrocarbons at the NMCB Building Expanded Area have been recorded. However, several potential sources of petroleum releases are present at the site. These sources include two abandoned 8-inch-diameter fuel transfer pipelines, one abandoned 12-inch-diameter fuel transfer pipeline, the former used oil collection tank UST T-1416-A, an inactive AST located south of the southwest corner of Building T-1416, and a 550-gallon JP-5 storage tank located along the east wall of Building T-1416. Petroleum sheens reportedly were observed in 1994 on ponded water between Building T-1416 and Seawall Road.

In September 1990, an abandoned fuel line located near the southeast corner of Runway 18-36 was uncovered during installation of a new fuel line adjacent to Main Road. The abandoned fuel line reportedly was a source of subsurface fuel contamination, and residual product was observed in the excavated trench. This release may have contributed to, or been associated with, petroleum hydrocarbons released to the environment at the NMCB Building Expanded Area.

Investigations conducted prior to 1996 include the Tank Farm A reconnaissance investigation, Main Road pipeline release investigation, Tank Farm A release investigation, UST T-1416-A closure assessment, site assessment for Sewage Lift Station 11, and the pipeline Area E site assessment. UST T-1416-A was removed during 1994, and UST 42484-A and the associated piping were removed during June 1995 as part of the environmental cleanup at the former Adak Naval Complex. The 1995 pipeline assessment also included removal of a valve pit along the pipeline trace north of Seawall Road. DRO and GRO at concentrations greater than the ADEC soil cleanup levels were confirmed in samples of subsurface soil collected at the NMCB Building Expanded Area during these investigations and removal actions.

In 1996, eighteen 2-inch-diameter monitoring wells, four Geoprobe wells, and four Geoprobe borings were installed at the site. DRO and GRO were detected in the soil at maximum concentrations of 43,000 mg/kg and 27,000 mg/kg, respectively. DRO, GRO, and BTEX concentrations in groundwater exceeded ADEC groundwater cleanup criteria in more than half of the wells sampled. Three of these wells were resampled in October 1997, and similar analytical results were reported.

Marine sediment and surface water samples were collected from 12 locations in Sweeper Cove offshore from NMCB in 1998. GRO was detected in three surface water samples collected south of building T-1416, south of the Fish and Wildlife Building, and south of the junction of Seawall and Main Roads. The maximum GRO concentration detected was 67 µg/L. BTEX constituents were reported in six surface water samples collected closest to the shoreline, and the maximum BTEX concentration detected was 33 µg/L. DRO was not detected in any surface water samples collected, but was detected in all 12 marine sediment samples, ranging in concentrations from 37 mg/kg to 146 mg/kg. Total PAHs were detected in two of 12 marine sediment samples.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	109
Number of Pre-Rod Samples	320
Potential Contaminat Types Evaluated	Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Marine sediment, Marine water, Product (floating or free), Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Direct Push/Geoprobe, Excavation, Geoprobe well, Hand auger, Hydropunch, Monitoring well, Subtidal, Test Pit, Well

COCs AND RISKS:

The NMCB Building Area was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery. The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

Groundwater

- Benzene
- Benzo(a)anthracene
- cis-1,2-Dichloroethene
- DRO
- Ethylbenzene
- GRO
- Methylene Chloride
- Trichloroethene

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2005, as part of the additional evaluation under SAERA. Results of this risk assessment identified human health risk and ecological hazard levels above target health goals. The decision document for final remedial action for the NMCB Building Expanded Area site was signed in 2006. The final remedy consisted of Ics, free product recovery, and MNA.

DRO and GRO were detected in soil at concentrations greater than the ACLs, which were calculated using ADEC Method Four [18 AAC 75.340(a)(4)]. Benzene, DRO, GRO, and lead were detected at concentrations greater than 10 times the tabulated groundwater cleanup levels [I8 AAC 75.345(b)(l), Table C]. The ecological risk assessment established that existing concentrations of contaminants in marine sediment do not pose an unacceptable risk; therefore, no cleanup levels were established for marine sediments.

The 2006 Final Decision Document for the NMCB Building Area T-1416 Expanded Area established cleanup levels based on ADEC regulatory criteria for the following COCs:

Groundwater

- DRO
- GRO
- Lead

Soil

- DRO
- GRO

NMCB Building Area - T-1416 Expanded Area OU A - SAERA

RAOs:

The OU A ROD for the petroleum site NMCB Building Area,T-1416 Expanded Area established the following original RAOs for the NMCB Building Area, T-1416 Expanded Area (Table 7-4 of the OU A ROD):

- Reduce volume of petroleum free product.

The RAOs were revised in the 2006 Final Decision Document for NMCB Building Area T-1416 Expanded Area to the following:

- Minimize exposure to free-phase petroleum product.
- Prevent potential future migration of contaminants to surface water at concentrations that could result in adverse ecological effects.
- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the Alaska DEC groundwater cleanup levels established for groundwater not currently used for, or not reasonably expected to be used for, drinking water.
- Prevent human and ecological exposure to petroleum hydrocarbons in soil that would result in adverse health effects.

REMEDY IMPLEMENTATION:

Free product recovery was specified by the OU A ROD as the interim remedy for the NMCB Building Expanded Area. This interim remedy was implemented September 1997 through July 2005. As of July 2005, free product recovery at the NMCB Building Expanded Area met the practicable endpoint established for the shut-down of product recovery as specified in the OU A ROD. ADEC approved the interim remedial action free product closure report for this site in January 2006. The 2006 decision document prepared under SAERA specified the final remedy as free product recovery, MNA, and ICs. ICs required by the 2006 decision document were already in place when the decision document was executed. The CMP was modified as needed to incorporate the MNA component of the final remedy.

Six new wells were installed in 2006 as part of implementing the free product recovery component of the final remedy. Following well installation, water level and product thicknesses were checked once per week for a one-month period in three new wells (NMCB-07, NMCB-08, and NMCB-09) and four existing wells (02-300, 02-497, 02-815, and 02-818). Six wells (02-820, 02-821, 02-300, 02-497, 02-815, and 02-81) had measurable product thicknesses during the month of September 2006. The maximum product thickness measured in September was 0.63 foot at 02-815 on September 11, 2006. A sorbent sock was installed for fuel recovery in any location showing product thickness greater than 0.01 foot but less than 0.1 foot (well 02-497). Passive skimmers were installed in locations showing between 0.11 and 0.5 foot product thickness (wells 02-300, 02-815, 02-818, NMCB-07, and NMCB-09). Locations with greater than 0.5 foot product thickness or wherever passive skimmer capacity could be exceeded for the period between monitoring events, were scheduled to have an automated system installed if this condition was observed.

During the one-month start-up period, product recovery occurred approximately once each week at wells with recovery equipment installed, then once per month thereafter. Five wells (02-820, 02-821, 02-300, 02-815, and 02-818) out of seven had product recovery during September 2006. The maximum product recovered in September 2006 was 0.63 gallon at 02-821 on September 29, 2006. The total product recovered from the NMCB Expanded Area wells for the September 2006 was 13.41 gallons.

During installation of the additional monitoring/recovery wells in 2006, soil samples were collected from wells NMCB-07, NMCB-08, NMCB-10, NMCB-11, and NMCB-12, and were analyzed for VOCs by method 8260B, GRO by method AK 101.0, DRO by method AK 102.0, and RRO by method AK 103.0. In each boring, one sample was collected from the unsaturated zone, and a second sample was collected from near the surface of the primary aquifer unit from these wells.

GRO, DRO, and RRO were detected in most of these soil samples at concentrations up to 14,200 mg/kg, 20,500 mg/kg, and 954 mg/kg, respectively. BTEX compounds were detected in at least one of the soil samples, with the highest concentration of any BTEX compound at 163 mg/kg (total xylenes in the 4 - 6 foot sample from NMCB-07). Trimethylbenzene compounds also were detected in most of the samples at concentrations up to 141 mg/kg.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including the NMCB Area.

NMCB Building Area - T-1416 Expanded Area   OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [x] Sediment Monitoring
- [x] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater and sediment

Current Analytes Sampled DRO, GRO, benzene

Current Monitoring Click to View Current Monitoring **Monitoring File:** NMCBT1416ExpandedArea_MonCurr.pdf

NMCB Building Area - T-1416 Expanded Area OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-300	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-301	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

NMCB Building Area - T-1416 Expanded Area OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-302	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Monitoring not planned	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-451	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, total lead	
2007	DRO, GRO, BTEX, total and dissolved lead	
2008	DRO, GRO, BTEX, total and dissolved lead	
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead	
2010	DRO, GRO, benzene	

NMCB Building Area - T-1416 Expanded Area   OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-452	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, total lead, 2,4-DNT	
2007	DRO, GRO, BTEX, total and dissolved lead	
2008	DRO, GRO, BTEX, total and dissolved lead	
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead	
2010	DRO, GRO, benzene	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-453	MNA, SW protection, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, total lead	
2007	DRO, GRO, BTEX, total and dissolved lead	
2008	DRO, GRO, BTEX, total and dissolved lead	
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead	
2010	DRO, GRO, benzene	

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-455	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead
2007	DRO, GRO, BTEX, total and dissolved lead
2008	DRO, GRO, BTEX, total and dissolved lead
2009	Free product detected, not sampled, product thickness (monthly)
2010	DRO, GRO, benzene, product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-461	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead
2007	DRO, GRO, BTEX, total and dissolved lead
2008	DRO, GRO, BTEX, total and dissolved lead
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	DRO, GRO, benzene

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-463	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness (monthly)
2010	Product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-475	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not performed as planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	Monitoring not planned
2010	Monitoring not planned

NMCB Building Area - T-1416 Expanded Area   OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-478	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead
2007	DRO, GRO, BTEX, total and dissolved lead
2008	DRO, GRO, BTEX, total and dissolved lead
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	DRO, GRO, benzene

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-479	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead
2007	DRO, GRO, BTEX, total and dissolved lead
2008	DRO, GRO, BTEX, total and dissolved lead
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	DRO, GRO, benzene

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-489	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Not located
2007	Monitoring not planned
2008	Monitoring not planned
2009	Monitoring not planned
2010	Monitoring not planned

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-497	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-813	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, total lead	
2007	DRO, GRO, BTEX, total and dissolved lead	
2008	DRO, GRO, BTEX, total and dissolved lead	
2009	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-815	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-816	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-817	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead
2007	DRO, GRO, BTEX, total and dissolved lead
2008	DRO, GRO, BTEX, total and dissolved lead
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	DRO, GRO, benzene

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-818	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Free product detected, not sampled, product thickness (monthly)
2007	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2008	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead, product thickness (monthly)
2010	Free product detected, not sampled, product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-819	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-201	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, total lead	
2007	DRO, GRO, BTEX, total and dissolved lead	
2008	DRO, GRO, BTEX, total and dissolved lead	
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead	
2010	DRO, GRO, benzene	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-05	SW protection	Sediment
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	DRO, GRO, BTEX, total lead	
2010	DRO, GRO, benzene	

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-01	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness
2007	Product thickness
2008	Monitoring not planned
2009	Monitoring not planned
2010	Monitoring not planned

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-04	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Free product detected, not sampled, product thickness (monthly)
2007	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2008	Free product detected, not sampled, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	Free product detected, not sampled

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-05	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead
2007	DRO, GRO, BTEX, total and dissolved lead
2008	DRO, GRO, BTEX, total and dissolved lead
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	Met endpoint criteria; monitoring discontinued except product thickness continued

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-07	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Free product detected, not sampled, product thickness (monthly)
2007	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2008	Free product detected, not sampled, product thickness (monthly)
2009	Free product detected, not sampled, product thickness (monthly)
2010	Free product detected, not sampled, product thickness (monthly)

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-08	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead, product thickness (monthly)
2007	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2008	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	DRO, GRO, benzene

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-09	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead, product thickness (monthly)
2007	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2008	DRO, GRO, BTEX, total and dissolved lead, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead, product thickness (monthly)
2010	DRO, GRO, benzene, product thickness (monthly)

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-10	MNA, SW protection, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, total lead	
2007	DRO, GRO, BTEX, total and dissolved lead	
2008	DRO, GRO, BTEX, total and dissolved lead	
2009	Free product detected, not sampled, product thickness (monthly)	
2010	Free product detected, not sampled, product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-11	MNA, SW protection, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, total lead	
2007	DRO, GRO, BTEX, total and dissolved lead	
2008	DRO, GRO, BTEX, total and dissolved lead	
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead	
2010	DRO, GRO, benzene	

NMCB Building Area - T-1416 Expanded Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NMCB-12	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, total lead
2007	DRO, GRO, BTEX, total and dissolved lead
2008	DRO, GRO, BTEX, total and dissolved lead
2009	DRO, GRO, BTEX, NAPs, total and dissolved lead
2010	DRO, GRO, benzene

SUMMARY OF INSPECTION RESULTS:

Beginning with the 2008 IC inspection, mishandling of waste oil containers and oil staining on the ground has been observed. These conditions also were observed during the 2010 five-year review inspection and 2010 IC inspection. No indications that groundwater was being used or indications of excavation activities were found. The 2010 IC report recommends onsite wastes be removed and areas of actual or potential spills be reviewed.

BIBLIOGRAPHY:

35, 62, 78, 84, 86, 90, 91, 94, 96, 113, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

NORPAC Hill Seep Area | **OU A - SAERA**

NORPAC Hill Seep Area — OU A - SAERA

STATUS: Groundwater and sediment monitoring, IC inspections.

BACKGROUND:

The precise location of the NORPAC Hill Seep has not been confirmed, but on the basis of field observations has been located approximately at the shoreline of Kuluk Bay southeast of NORPAC Hill. A petroleum sheen has been observed occasionally for several years, usually during high tide, on the surface of Kuluk Bay in this vicinity. No specific information is available regarding when sheens were observed at the site. Most likely these sheens were observed after 1996, because no investigations were performed prior to this date. Presuming that the petroleum source is on shore, the seep area should be situated at or near the base of a rock-covered slope that descends steeply from the Bayshore Highway down to the shoreline of Kuluk Bay. The petroleum hydrocarbon within the sheen had been identified as JP-5.

The southeastern slope of NORPAC Hill has never been developed because of its extreme steepness. The Kuluk Housing area, which is now vacant, is located about 400 feet west-southwest of the shoreline seep area. Each housing unit used JP-5 fuel for heating purposes. This fuel was supplied to the units from ASTs via underground pipelines. Prior to the construction of Kuluk Housing, the area was occupied by Army barracks and mess halls, which were supplied with heating fuel.

Assuming that the released product is JP-5, potential sources in the vicinity include (1) the heating fuel systems for the nearby Kuluk Housing or the former Army barracks, (2) a fuel pipeline associated with a shutoff valve located about 250 feet west of and upgradient from the seep area, or (3) a source yet undiscovered. No releases are known to have occurred at the pipeline, the fuel shutoff valve, the former barracks area, or the Kuluk Housing units in the vicinity.

No investigations were conducted in the vicinity of the NORPAC Hill Seep prior to 1996. The initial investigations conducted in 1996 and 1997 included drilling six soil borings, five of which were completed as monitoring wells, and collecting one surface soil sample. Maximum detected concentrations of DRO and GRO in soil were 14,000 mg/kg and 67 mg/kg, respectively. DRO was detected at a maximum concentration of 5,200 µg/L in groundwater. GRO, BTEX, and cPAHs were not detected in any of the groundwater samples. In 1998, three monitoring wells were installed upgradient of the previous wells to try to determine the source area. Two of the three new wells reported DRO concentrations above the ROD-established ADEC soil cleanup level. GRO was detected in one soil boring at a concentration near the detection limit. The maximum concentration of DRO detected in groundwater (6,180 µg/L) was detected in upgradient well 04-405.

Between September 1996 and November 2001, a measurable product thickness was observed in two wells installed in the vicinity, 04-145 and 04-146. A measurable thickness of free product has not been reported in well 04-145 since November 29, 1999. The maximum product thickness measured in well 04-146 was 1.67 feet on April 25, 2000. A passive recovery bailer was installed in well 04-146 on March 18, 1998. Product recovery was conducted through June 2000. A passive recovery bailer was re-installed in well 04-146 on June 1, 2001.

NORPAC Hill Seep Area — OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	37
Number of Pre-Rod Samples	106
Potential Contaminat Types Evaluated	Inorganics, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Ground surface, Hand auger, Monitoring well, Well

COCs AND RISKS:

The NORPAC Hill Seep Area was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery.

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the additional action required under SAERA.

This site poses no unacceptable risk to human health or the environment above target health goals, provided that Ics remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. The OU A ROD did not identify human health or ecological risks associated with the site. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at NORPAC Hill is not considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established no COCs for this site.

RAOs:

The OU A ROD for the petroleum site NORPAC Hill Seep Area established the following original RAO for the NORPAC Hill Seep Area:

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.
- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below Alaska DEC groundwater cleanup levels.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim free product recovery remedy was implemented intermittently beginning in 1998. Free product recovery conducted as an interim remedial action has met the practicable endpoint established for the shut-down of product recovery as specified in the OU A ROD. ADEC approved the interim action free product recovery closure report for this site in January 2006. The 2005 decision document specifies the final remedy as limited groundwater monitoring. This remedy was implemented in 2005 via modifications to the CMP.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including NORPAC Hill. No ICs specific to the NORPAC Hill Seep Area were established in the OU A ROD or the 2005 SAERA decision document; however, ICs are included for this site in the ICMP.

NORPAC Hill Seep Area — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Free product recovery was discontinued in June 2010.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [x] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection — Click to View ICMP Table
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater and sediment

Current Analytes Sampled DRO

Current Monitoring Click to View Current Monitoring **Monitoring File:** NorpacHillSeepArea_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-145	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	DRO	
2008	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-146	SW protection, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Free product detected, not sampled	
2006	Free product detected, not sampled, product thickness (monthly)	
2007	DRO, product thickness (monthly), shoreline inspection	
2008	Free product detected, not sampled, product thickness (monthly), shoreline inspection	
2009	DRO, product thickness (monthly), shoreline inspection	
2010	DRO (if product not present), product thickness (monthly), shoreline inspection	

NORPAC Hill Seep Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-147	SW protection	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO (even years only)	
2009	Monitoring not planned	
2010	DRO (even years only)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-149	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

NORPAC Hill Seep Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-150	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-403	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO (even years only)	
2009	Monitoring not planned	
2010	DRO (even years only)	

NORPAC Hill Seep Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-404	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-405	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO (even years only)	
2009	Monitoring not planned	
2010	DRO (even years only)	

NORPAC Hill Seep Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-06	SW protection	Surface water and Sediment
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	DRO, seep flow insufficient SW not sampled	
2010	DRO, seep flow insufficient SW not sampled	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NS-2	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	DRO	
2008	Met endpoint criteria; monitoring discontinued	

NORPAC Hill Seep Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NS-3	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NS-4	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

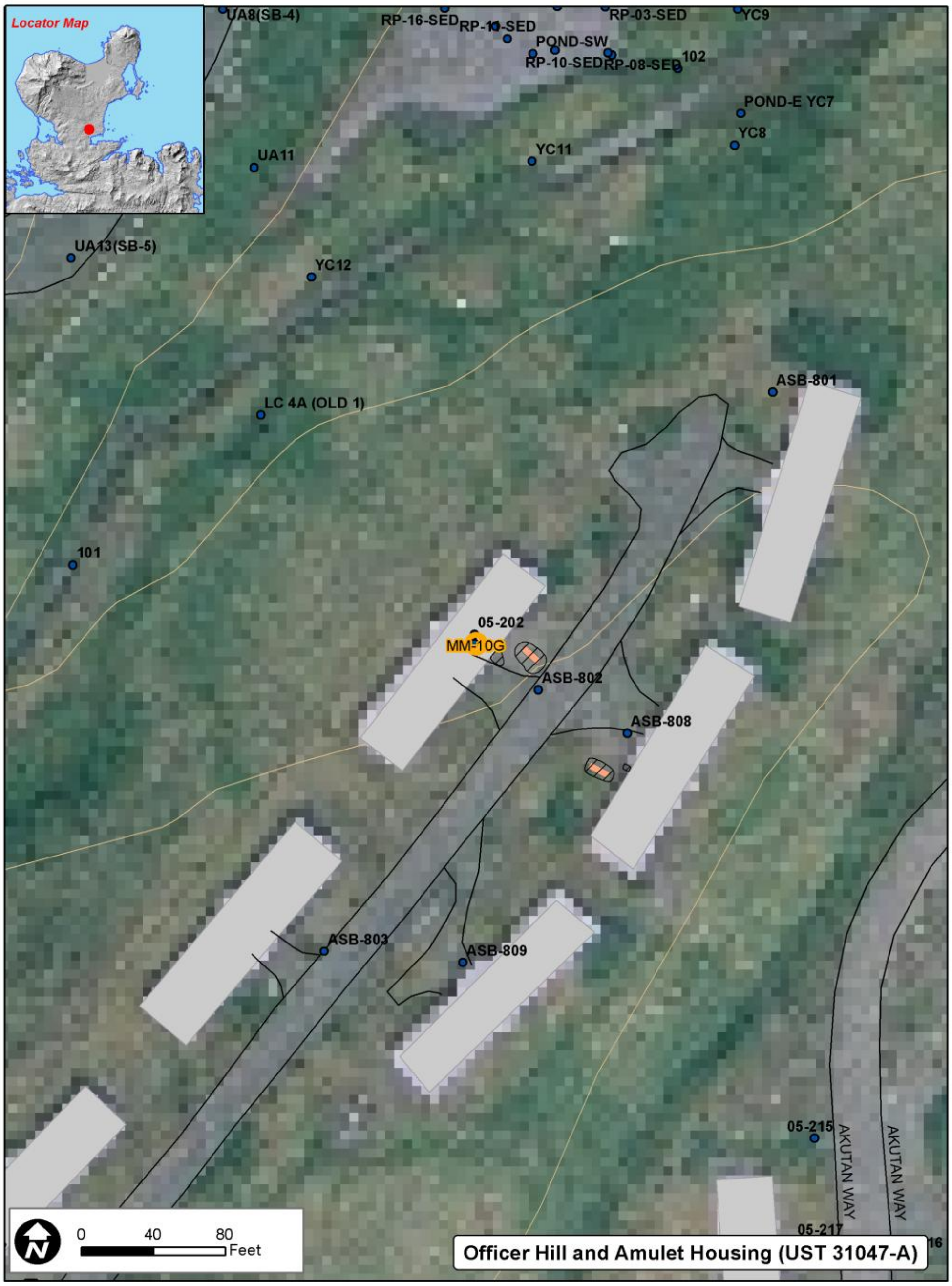
SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 42, 62, 77, 84, 86, 90, 91, 125, 129, 134

Officer Hill and Amulet Housing (UST 31047-A) OU A - SAERA



Officer Hill and Amulet Housing (UST 31047-A) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

Officer Hill Housing is located northwest of Amulet Housing and west of downtown Adak. Former UST 31047-A was located approximately 1,800 feet west of Runway 18-36 and 7,500 feet west of Kuluk Bay. Building 31047 and the other residential housing units in the Officer Hill and Amulet Housing area were built in the 1960s. Land use in this area prior to the 1960s is unknown.

The original fuel oil tank installed at the time of construction of the housing units was replaced (in the same location) with a JP-5 UST in 1988. The condition of the original fuel oil tank when it was removed is unknown. UST 31047-A was used to store JP-5 for the oil furnace. The UST was removed in March 1995. At the time of removal, UST 31047-A appeared to be in excellent condition, with no observed dents, deformities, holes, or rust. DRO concentrations in soil samples collected during removal activities ranged from 9.7 mg/kg to 3,000 mg/kg. Because analytical results indicated that concentrations of DRO in surface soil remaining near the vent pipe exceeded the screening criterion established by ADEC, an additional investigation was required.

In 1996, two hand auger borings were advanced in the vicinity of the former tank. Concentrations of DRO in surface and subsurface soil were reported at 24,700 mg/kg and 19,000 mg/kg, respectively, which exceeded the ADEC cleanup criterion.

In 1998, a site investigation was conducted to evaluate the extent of petroleum hydrocarbons found during the 1996 investigation. One soil boring was drilled to a depth of approximately 6 feet. This boring was intended to be completed as a groundwater monitoring well. However, bedrock was encountered at a depth of 6 feet and groundwater was not present in the boring. Analyses of the two soil samples collected from this boring did not detect DRO at concentrations above the ADEC Method Two soil cleanup level established for this compound.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	10
Number of Pre-Rod Samples	15
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Excavation, Hand auger, Pipeline

Officer Hill and Amulet Housing (UST 31047-A) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Officer Hill and Amulet Housing (UST 31047-A) established the following RAO for Officer Hill and Amulet Housing (UST 31047-A) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

In 1999, approximately 7 cubic yards of soil containing petroleum-related compounds at concentrations exceeding ADEC Method Two soil cleanup levels were removed from the site for treatment and disposal. Although all soils that could be removed from the excavation were removed, highly fractured bedrock encountered between 3 and 5 feet appears to be impacted by petroleum contamination, based on one sample from location 331. Therefore, the DRO concentrations remaining in on-site soils are above the ADEC Method Two soil cleanup level for the over-40-inch rainfall zone and protection of migration to groundwater. Further excavation in this area is not possible because of the presence of shallow bedrock and the proximity of Building 31047. Because shallow bedrock is present at the site and groundwater was not encountered during drilling activities in 1998, groundwater is not considered a continuous transport pathway from the Officer Hill and Amulet Housing site to Yakutat Creek, located 200 feet to the northwest.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required a soil sample near location 331 to achieve NFA. ADEC may require additional actions when the landowner applies to remove restrictions. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including Officer Hill and Amulet Housing UST 31047-A. No ICs specific to Officer Hill and Amulet Housing UST 31047-A were established by the OU A ROD, and no IC inspections are required in the ICMP.

Officer Hill and Amulet Housing (UST 31047-A) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☐ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☑ None Required

Most Recent Sampling Date June 1999 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Officer Hill and Amulet Housing (UST 31047-A) OU A - SAERA

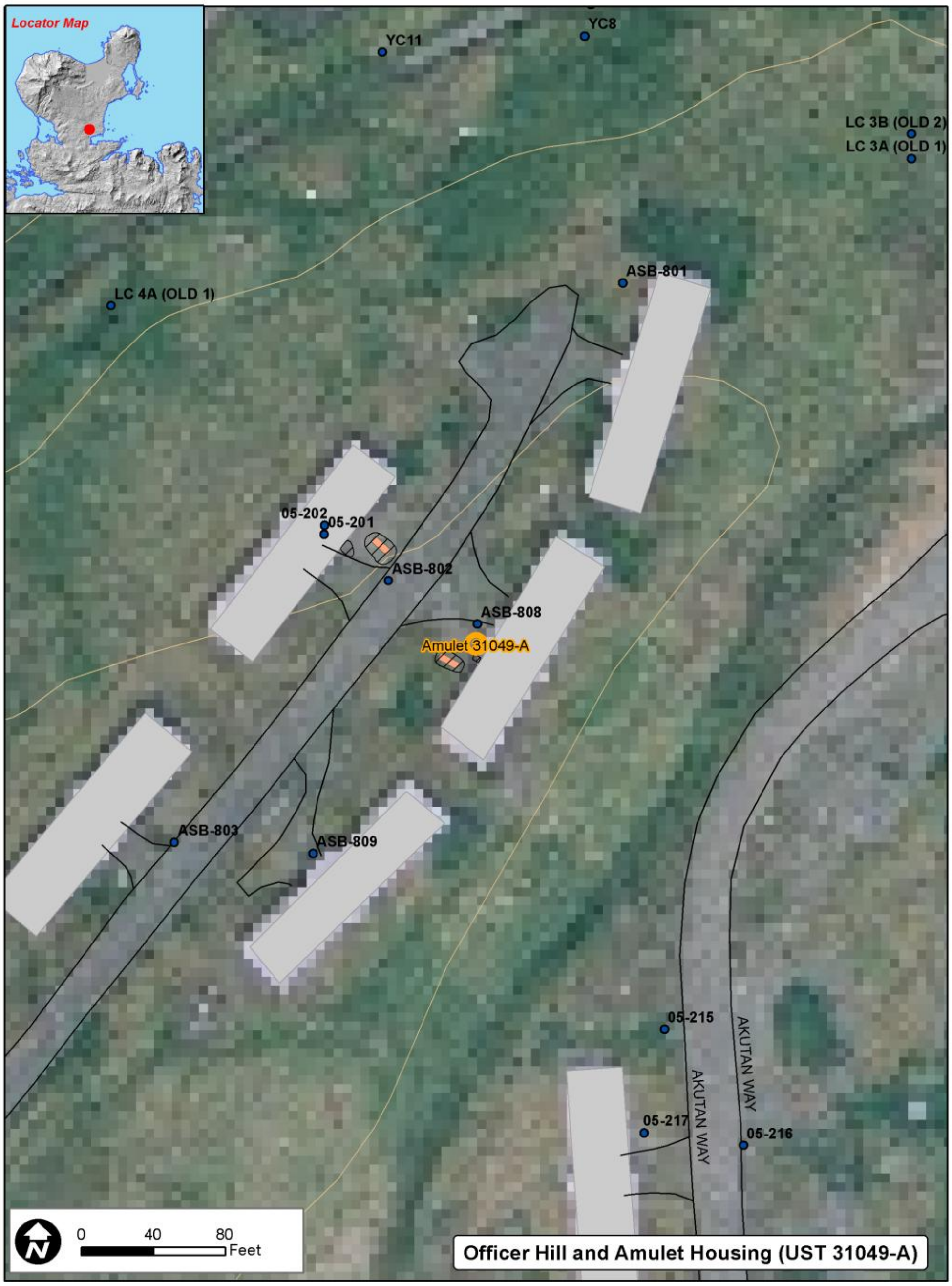
SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in August 2010 found that the site has had no apparent activity since the last five-year review, the building is unoccupied. This is a no further action site but was inspected in 2010 because of the potential for status change based on revised ARARs.

BIBLIOGRAPHY:

2, 28, 29, 31, 34, 39, 41, 44, 52, 62, 81, 84, 86

Officer Hill and Amulet Housing (UST 31049-A) **OU A - SAERA**



Officer Hill and Amulet Housing (UST 31049-A) OU A - SAERA

STATUS: NFA in 2005, with ADEC concurrence.

BACKGROUND:

Officer Hill Housing is located northwest of Amulet Housing and west of downtown Adak. Former UST 31049-A was located approximately 1,800 feet west of Runway 18-36 and 7,500 feet west of Kuluk Bay. Building 31049 and the other residential housing units in the Officer Hill and Amulet Housing area were built in the 1960s. Land use in this area prior to the 1960s is unknown.

The original fuel oil tank installed at the time of construction of the housing units was replaced (in the same location) with a JP-5 UST in 1988. The condition of the original fuel oil tank when it was removed is unknown. UST 31049-A was used to store JP-5 for the oil furnace. The UST was removed in March 1995. At the time of removal, UST 31049-A appeared to be in excellent condition, with no observed dents, deformities, holes, or rust. DRO concentrations in soil samples collected during removal activities ranged from 9.0 mg/kg to 390 mg/kg. Although the maximum DRO concentration in the soil samples collected during the UST closure were well below the ADEC criterion, an additional investigation was required because the site is less than 200 feet from the DEM (an unnamed creek).

In 1998, a site investigation was conducted in the vicinity of the removed piping that had connected the housing unit furnace to UST 31049-A. One soil boring was drilled near the point where the piping entered the building. The maximum DRO concentration detected in the two soil samples collected from this boring was 12 mg/kg, well below the ADEC Method Two soil cleanup level.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	8
Number of Pre-Rod Samples	11
Potential Contaminat Types Evaluated	Petroleum hydrocarbons
Pre-ROD Sample Matrix Types	Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Excavation, Pipeline

Officer Hill and Amulet Housing (UST 31049-A) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Officer Hill and Amulet Housing (UST 31049-A) established the following RAO for Officer Hill and Amulet Housing (UST 31049-A) on Table 7-4 of the OU A ROD:

- Mitigate potential for downgradient migration.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

In 1999, approximately 2 cubic yards of soil containing petroleum-related compounds at concentrations exceeding ADEC Method Two soil cleanup levels were removed from the site for treatment and disposal. Confirmation sampling identified concentrations of petroleum-related compounds below ADEC soil cleanup levels. The site status was designated NFA in 2005, with ADEC concurrence.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including Officer Hill and Amulet Housing UST 31049-A. No ICs specific to Officer Hill and Amulet Housing UST 31049-A were established by the OU A ROD, and IC inspections are not required for this site in the ICMP.

Officer Hill and Amulet Housing (UST 31049-A) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☐ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☑ None Required

Most Recent Sampling Date June 1999 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Officer Hill and Amulet Housing (UST 31049-A) OU A - SAERA

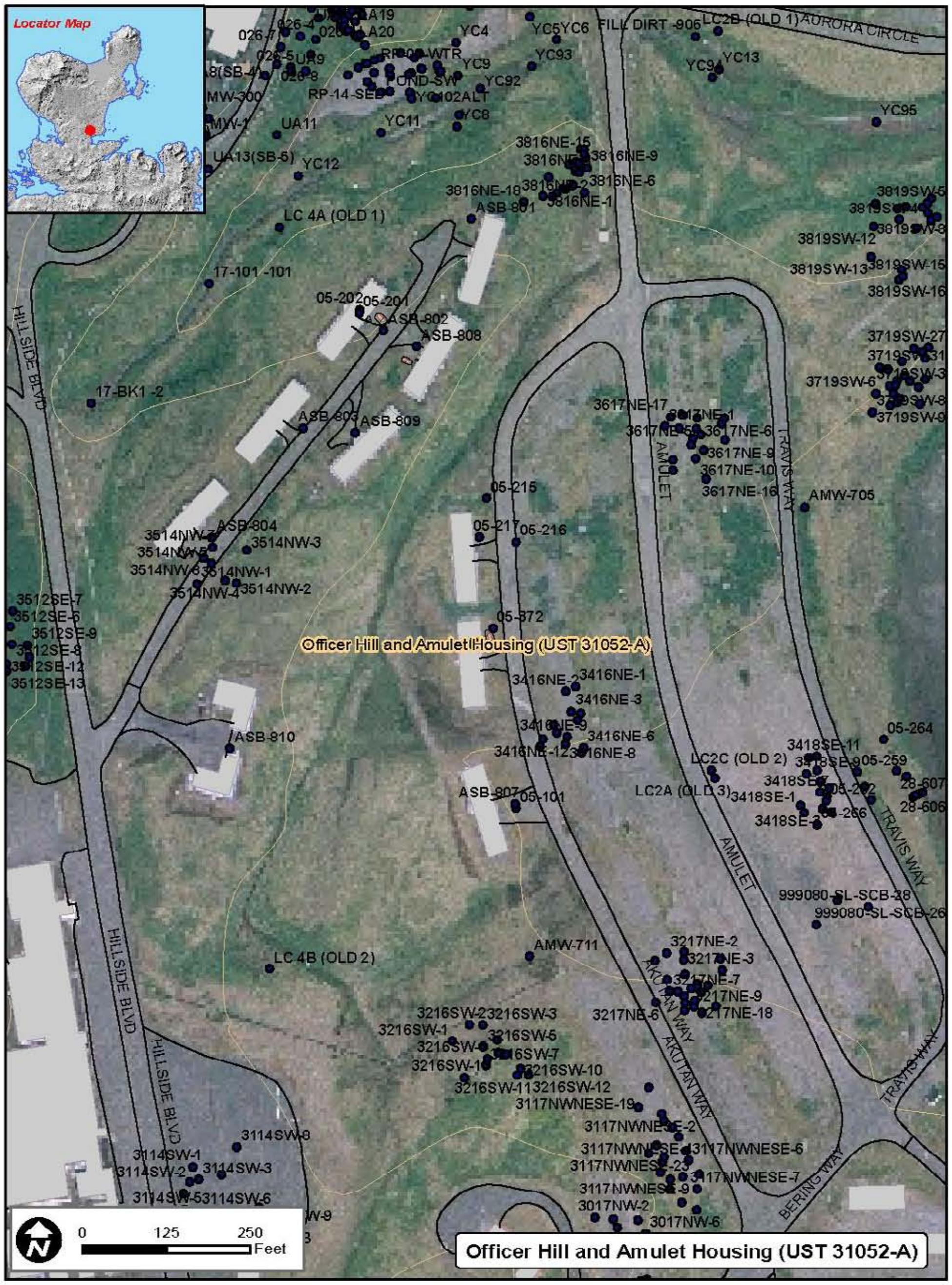
SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in August 2010 found that the site has had no apparent activity since the last five-year review. This is a no further action site but was inspected in 2010 because of the potential for status change based on revised ARARs.

BIBLIOGRAPHY:

2, 4, 28, 29, 31, 34, 39, 41, 44, 52, 62, 81, 84, 86

Officer Hill and Amulet Housing (UST 31052-A) OU A - SAERA



Officer Hill and Amulet Housing (UST 31052-A) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

Officer Hill Housing is located northwest of Amulet Housing and west of downtown Adak. Former UST 31052-A was located approximately 600 feet west of South Sweeper Creek, 1,300 feet west of Runway 18-36, and 7,000 feet west of Kuluk Bay. Building 31052 and the other residential housing units in the Officer Hill and Amulet Housing area were built in the 1960s. Land use in this area prior to the 1960s is unknown.

The original fuel oil tank installed at the time of construction of the housing units was replaced (in the same location) with a JP-5 UST in 1988. The condition of the original fuel oil tank when it was removed is unknown. UST 31052-A was used to store JP-5 for the oil furnace. The UST was removed in March 1995. During the tank removal, groundwater was encountered at 5.5 feet bgs, and a heavy sheen was observed on the groundwater surface. DRO concentrations in soil samples collected during removal activities ranged from 5.0 mg/kg to 3,100 mg/kg. UST 31052-A appeared to be in excellent condition at the time of removal, with no observed dents, deformities, holes, or rust. Because DRO concentrations in the soil samples collected during the UST closure exceeded the ADEC criterion, an additional investigation was required.

In 1996 and 1997, a site investigation was conducted to verify that DRO concentrations were present at the vent standpipe and to determine the horizontal extent of petroleum-affected soil. The investigation included collecting soil samples from two hand-augered soil borings that were completed in the vicinity of former UST 31052-A and the associated vent standpipe. The highest concentrations of DRO were in the surface and subsurface soil samples collected near the vent standpipe (2,650 mg/kg and 1,100 mg/kg, respectively).

In 1998, an additional soil boring was drilled in the vicinity of the hand auger locations using Geoprobe drilling equipment. Of the two soil samples collected from the boring, the highest concentration of DRO (69 mg/kg) was detected in the sample collected from 3.5 to 5 feet.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	10
Number of Pre-Rod Samples	17
Potential Contaminat Types Evaluated	Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Excavation, Hand auger, Pipeline

Officer Hill and Amulet Housing (UST 31052-A) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Officer Hill and Amulet Housing (UST 31052-A) established the following RAO for Officer Hill and Amulet Housing (UST 31052-A) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

In 1999, approximately 2 cubic yards of soil containing petroleum-related compounds at concentrations exceeding ADEC Method Two soil cleanup levels were removed from the site for treatment and disposal. Although DRO concentrations reported for soil remaining on site are above the ADEC Method Two soil cleanup level for the over-40 inch rainfall zone and protection of migration to groundwater, further excavation in this area was not possible because of the proximity of Building 31052 and the presence of shallow groundwater.

The site remedy shifted from limited soil removal to limited groundwater monitoring with ADEC concurrence in 1999 (Agency comments to the Draft Limited Soil Removal Report dated September 21, 1999). Because inaccessible petroleum in soil remained, well 05-372 was installed in 2001 to evaluate whether the remaining petroleum in soil was partitioning into groundwater at concentrations above ADEC 18 AAC 75.345 Table C values. Limited groundwater monitoring commenced in 2001, but no target analytes were detected above OU A ROD cleanup levels in 2001 and 2002; therefore, groundwater monitoring stopped in 2002. This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 05-207 and 05-371 to achieve NFA.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including Officer Hill and Amulet Housing UST 31052-A. No ICs specific to Officer Hill and Amulet Housing UST 31052-A were established in the OU A ROD, and IC site inspections are not required for this site in the ICMP.

Officer Hill and Amulet Housing (UST 31052-A) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☐ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☑ None Required

Most Recent Sampling Date October 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Officer Hill and Amulet Housing (UST 31052-A) OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-372	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

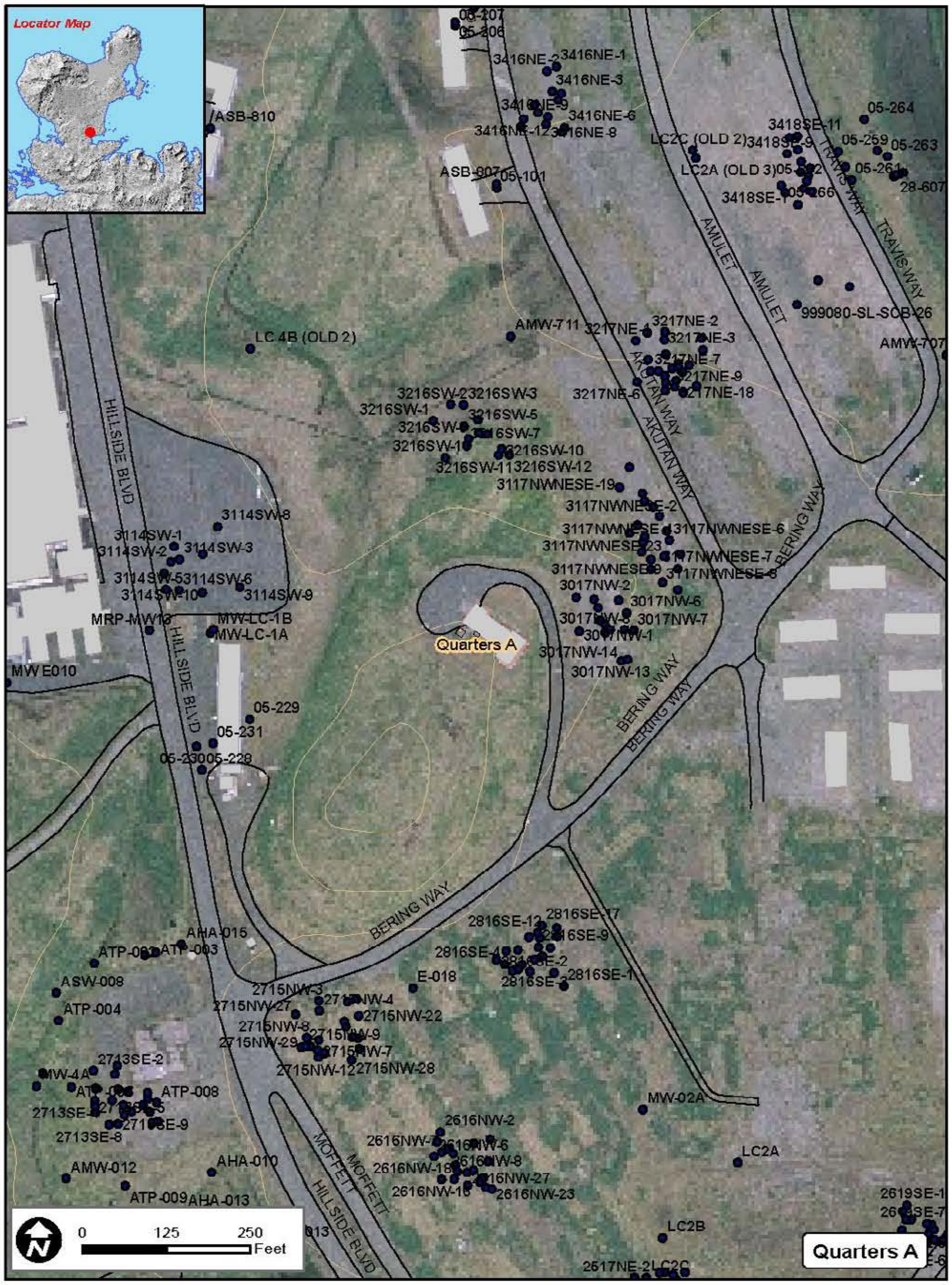
SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in August 2010 found that the site has had no apparent activity since the last five-year review.

BIBLIOGRAPHY:

2, 28, 29, 31, 34, 39, 41, 44, 52, 62, 81, 84, 86

Quarters A — OU A - SAERA



Quarters A — OU A - SAERA

STATUS: NFA in 2005, with ADEC concurrence.

BACKGROUND:

Quarters A is located on a small hill northeast of Bering Hill, west of Runway 18-36, and overlooking the former Officer Hill and Amulet Housing. Quarters A is a single-family residence formerly occupied by the Naval Air Facility Commander. The knoll where Quarters A is located was used during the 1940s as tent housing for troops. Former UST 42200 was used to store JP-5 fuel for heating Quarters A.

UST 42200 was removed in 1997. Soil samples were collected from the floor of the excavation and from under the supply/return lines against the building foundation. Upon removal, the tank was in excellent condition and did not appear to have holes in the body that would indicate leakage. DRO was reported at a concentration of 1,660 mg/kg in the soil sample collected under the former supply/return lines that exceeded the ADEC Method One soil cleanup level (200 mg/kg) established for this compound. The source of petroleum release is not recorded.

In 1998, two soil borings were drilled in the vicinity of the former supply/return lines. DRO was not detected in these soil samples at concentrations above the ADEC Method Two soil cleanup level established for this compound.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	5
Number of Pre-Rod Samples	7
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Volatile organics
Pre-ROD Sample Matrix Types	Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Excavation

Quarters A — OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site Quarters A established the following RAO for Quarters A (Table 7-4 of the OU A ROD):

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is limited soil removal.

In 1999, approximately 3 cubic yards of petroleum-impacted soil was removed from the site for treatment and disposal. Confirmation sampling identified concentrations of petroleum related compounds below ADEC soil cleanup levels. No ICs specific to Quarters A were established in the OU A ROD, and IC site inspections are not required for this site in the ICMP. In its designation of the site as NFA in 2005, ADEC stated that area-wide "downtown" land use restrictions will still apply to this site.

Quarters A — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date July 1999 **Most Recent Inspection Date:** 1999

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Quarters A — OU A - SAERA

SUMMARY OF INSPECTION RESULTS:

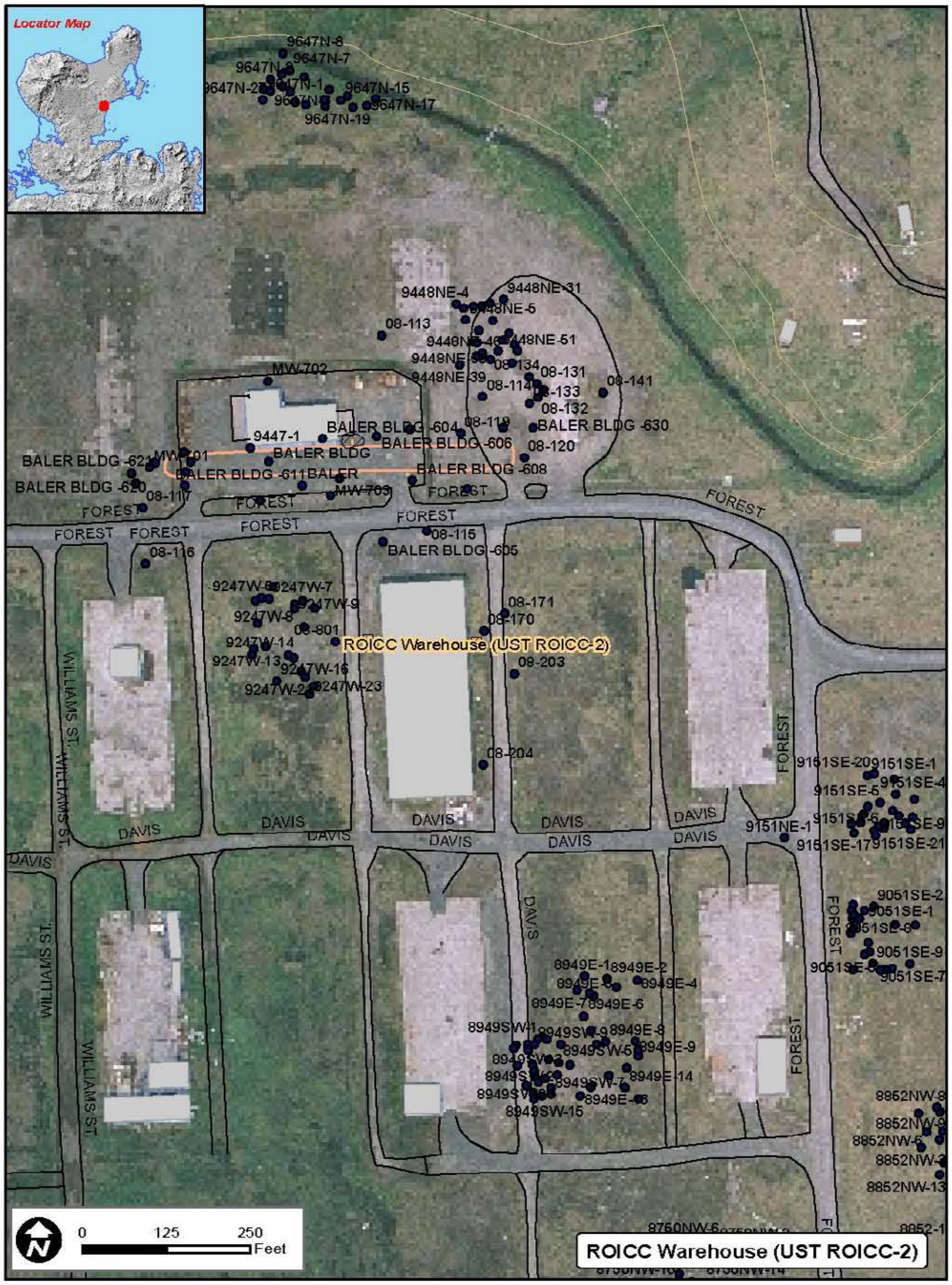
Quarters A was not one of the sites selected for inspection during the 2010 five-year review. Quarters A is a no further action site that did not appear likely to be revised to an action site based on ARAR changes.

BIBLIOGRAPHY:

5, 55, 62, 84, 86

Environmental Restoration Site Report
Adak Island, Alaska

ROICC Warehouse (UST ROICC-2) — OU A - SAERA



ROICC Warehouse (UST ROICC-2) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

The ROICC Warehouse is located north of downtown Adak, approximately 4,000 feet north of Runway 5-23 and approximately 1,650 feet west of Kuluk Bay. The ROICC Warehouse, built in the mid-to-late 1940s, has always been used for storage of construction equipment and supplies for contractors working for the Navy. UST ROICC-2, a 1,300-gallon steel UST, is believed to have been used to collect and store diesel-range and heavier petroleum product.

The general topography of the ROICC Warehouse area is flat and surface water drainage is poor, creating pools of standing water on the site and throughout the area. The closest surface water body is NAVFAC Creek, located approximately 500 feet north of the site. The closest marine surface water body is Kuluk Bay, located approximately 1,650 feet east of the source. Groundwater flow direction at the site has been estimated to be southeast toward Kuluk Bay and appears to parallel NAVFAC Creek. The groundwater surface has been observed between 6 and 8 feet bgs at the site. Subsurface material observed at the site consists of fine-grained sand with an organic silt layer between 5.5 and 6.5 feet bgs in the vicinity of the former UST. The sandy material typically possesses a high water-bearing capacity.

UST ROICC-2 was decommissioned and removed in April 1995. At the time of removal, the tank was full of a water and product mix that had resulted from rainwater entering the tank through an exposed 4-inch-diameter hole on top of the tank. The tank was in poor condition, with surface rust and one 10-inch-long triangular hole above the ground surface. DRO concentrations from all five samples collected from the excavation exceeded the ADEC soil matrix level. The history and exact use of the UST are not documented. The release mechanism is unknown, but could be from overfilling or from the hole in the tank.

In 1996, two groundwater monitoring wells were installed downgradient of the former tank excavation. DRO, GRO, and BTEX were not detected in soil samples collected at the site. DRO and GRO were not detected in groundwater samples, and benzene was detected at a maximum concentration of 2.2 μg/L in groundwater. Well 08-171 was resampled in 1998, and DRO, GRO, and BTEX were not detected in groundwater.

In 1999, wells 08-203 and 08-204 were installed south of well 08-171 because of the variable groundwater flow direction. No exceedances of soil cleanup criteria were noted.

ROICC Warehouse (UST ROICC-2) OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	9
Number of Pre-Rod Samples	15
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Excavation, Monitoring well, Well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site ROICC Warehouse (UST ROICC-2) established the following RAO for the ROICC Warehouse (UST ROICC-2) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

ROICC Warehouse (UST ROICC-2) OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

Wells 08-171 and 08-203 were sampled between 1999 and 2000 as part of the limited monitoring program. Analytical results from groundwater samples collected for two consecutive sampling events were below the ROD-established ADEC 18 AAC 75.345 Table C values. Groundwater monitoring was discontinued at this site in 2000, because concentrations had achieved endpoint criteria.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 10, 12, 14, 15, and 16 to achieve NFA. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including ROICC-2. No ICs specific to UST ROICC-2 were established in the OU A ROD, and IC inspections are not included for this site in the ICMP.

ROICC Warehouse (UST ROICC-2) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date May 2000 **Most Recent Inspection Date:** August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required **Monitoring File:** Not Applicable

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-171	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	
LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-203	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

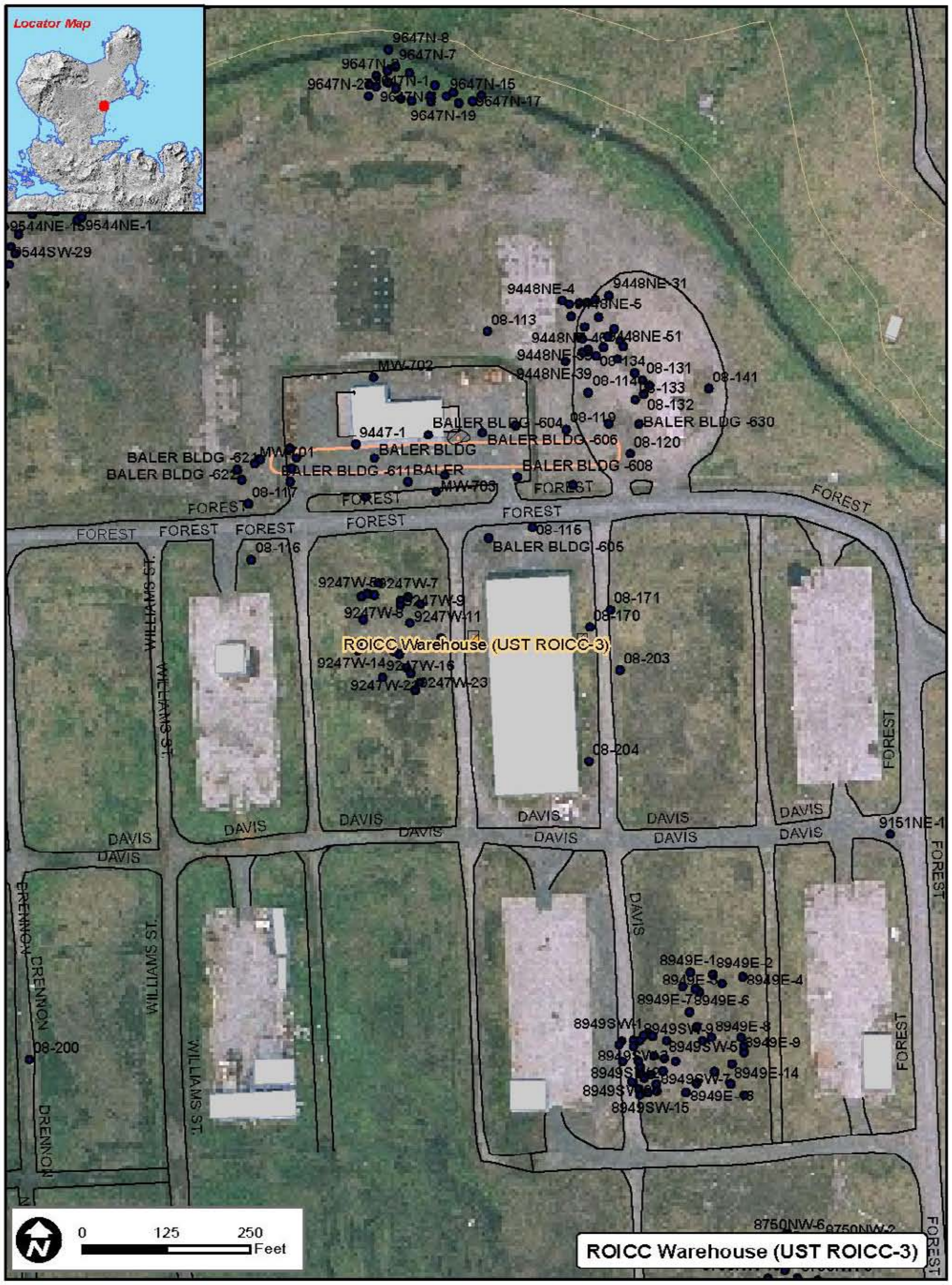
SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in August 2010 found that the site has had no apparent activity since the last five-year review.

BIBLIOGRAPHY:

2, 18, 52, 62, 84, 86

ROICC Warehouse (UST ROICC-3) **OU A - SAERA**



ROICC Warehouse (UST ROICC-3) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

The ROICC Warehouse is located north of downtown Adak, approximately 4,000 feet north of Runway 5-23 and approximately 1,650 feet west of Kuluk Bay. The ROICC Warehouse, built in the mid- to late 1940s, has always been used for storage of construction equipment and supplies for contractors working for the Navy. UST ROICC-3, a 1,300-gallon steel UST, was believed to have been used to collect and store diesel-range and heavier petroleum product.

The general topography of the ROICC Warehouse area is flat and surface water drainage is poor, creating pools of standing water on the site and throughout the area. The closest surface water body is NAVFAC Creek, located approximately 500 feet north of the site. The closest marine surface water body is Kuluk Bay, located approximately 1,650 feet east of the source. Groundwater flow direction at the site has been estimated to be southeast toward Kuluk Bay and appears to parallel NAVFAC Creek. The groundwater surface has been observed between 6 and 8 feet bgs at the site. Subsurface material observed at the site consists of fine-grained sand with an organic silt layer between 5.5 and 6.5 feet bgs in the vicinity of the former UST. The sandy material typically possesses a high water-bearing capacity.

UST ROICC-3 was decommissioned and removed in April 1995. At the time of removal, the tank was in poor condition, with surface rust. DRO concentrations from two of three samples collected from the excavation exceeded the ADEC soil matrix level. The history and exact use of the UST are not documented. The release mechanism is unknown, but could possibly be from overfilling.

In 1996, two groundwater monitoring wells were installed downgradient of the former tank excavation for UST ROICC-3 and the former tank excavation for UST-ROICC-2 located nearby. DRO, GRO, and BTEX were not detected in soil samples collected at the site. DRO and GRO were not detected in groundwater samples. Benzene was detected at a maximum concentration of 2.2 µg/L in groundwater. Well 08-171 was resampled in 1998, and DRO, GRO, and BTEX were not detected in groundwater.

In 1999, well 08-801 was installed west of the former tank excavation due to the variable groundwater flow direction. No analytes were detected in the soil sample collected.

ROICC Warehouse (UST ROICC-3) OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	8
Number of Pre-Rod Samples	11
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Excavation, Monitoring well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site ROICC Warehouse (UST ROICC-3) established the following RAO for the ROICC Warehouse (UST ROICC-3) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

ROICC Warehouse (UST ROICC-3) OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

Wells 08-171 and 08-801 were sampled between 1999 and 2000 as part of the limited monitoring program, and analytical results from groundwater samples collected for two consecutive sampling events were below the ROD-established ADEC 18 AAC 75.345 Table C values. Groundwater monitoring was discontinued at this site in 2000, because concentrations had achieved endpoint criteria.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 14 and 15 to achieve NFA. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including ROICC-3. No ICs specific to UST ROICC-3 were established in the OU A ROD, and IC inspections are not included for this site in the ICMP.

ROICC Warehouse (UST ROICC-3) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☐ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☑ None Required

Most Recent Sampling Date May 2000 **Most Recent Inspection Date:** August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required **Monitoring File:** Not Applicable

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-204	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	
LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-801	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in August 2010 found that the site has had no apparent activity since the last five-year review.

BIBLIOGRAPHY:

2, 28, 52, 62, 84, 86

Environmental Restoration Site Report
Adak Island, Alaska

ROICC Contractor's Area (UST ROICC-7)	OU A - SAERA

ROICC Contractor's Area (UST ROICC-7) OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

The ROICC Contractor's Area is located north of the airport and downtown Adak in an unpopulated area approximately 1/2 mile from Kuluk Bay. The ROICC Contractor's Area was used for storage of equipment and supplies for contractors working for the Navy. UST ROICC-7 was located on the south side of Davis Street near a concrete pad that had been a warehouse foundation. The UST location was approximately 20 feet north and 17 feet east of the southeast corner of the southern concrete pad.

The general topography of the site is flat. North Sweeper Creek is located approximately 2,200 feet south of the former location of UST ROICC-7. Groundwater flow is generally to the south-southeast toward North Sweeper Creek.

The history and use of the UST ROICC-7 are not documented. When the UST was removed in 1995, the tank was nearly full of oily water. The excavated tank was in moderate to good condition with moderate to heavy surface rust. A 4-inch diameter hole and two piping connections were observed on the tank's top, but piping was not observed in the area of the tank. Hydrocarbon odors and a sheen on the tank were noted during excavation. The source of petroleum release is not recorded, but it appears to have originated from the UST. DRO was reported at a concentration of 16,000 mg/kg in the soil sample collected from the south end of the tank, exceeding the ADEC Method One soil cleanup level (200 mg/kg) established for this compound.

In 1999, three groundwater monitoring wells were installed north of the former ROICC- 7 excavation to find the source of benzene reported in groundwater samples collected from well 08-153. Benzene concentrations in the resulting boring for monitoring well 08-200 exceeded the soil cleanup criterion.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	6
Number of Pre-Rod Samples	10
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Excavation, Monitoring well, Well

ROICC Contractor's Area (UST ROICC-7) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- Benzene
- DRO

RAOs:

The OU A ROD for the petroleum site ROICC Contractor's Area (UST ROICC-7) established the following RAO for the ROICC Contractor's Area (UST ROICC-7) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

Limited groundwater monitoring was conducted between 1999 and 2002. Well 08-175 was installed in 2003 to evaluate natural attenuation downgradient. Natural attenuation evaluation monitoring was initiated at locations 08-175, 08-200, and 08-202 during 2003.

Analytical results from groundwater samples collected during the first year of comprehensive monitoring exceeded the ROD-established ADEC 18 AAC 75 groundwater cleanup criteria in well 08-200 (benzene and GRO) and well 08-202 (benzene).

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including ROICC-7.

ROICC Contractor's Area (UST ROICC-7) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — **Click to View ICMP Table**
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled Benzene, NAPs

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** ROICC7_MonCurr.pdf

ROICC Contractor's Area (UST ROICC-7) OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-175	MNA, NAE	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	GRO, BTEX, NAPs	
2004	GRO, BTEX, NAPs	
2005	Monitoring not planned	
2006	GRO (Annually), BTEX (even years only)	
2007	GRO	
2008	Benzene (even years only)	
2009	NAPs	
2010	Benzene (even years only)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-200	MNA, NAE	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, VOCs, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, DRO fractions, RRO, NAPs	
2003	GRO, BTEX, NAPs	
2004	GRO, BTEX, NAPs	
2005	GRO, BTEX	
2006	GRO, BTEX	
2007	GRO, BTEX	
2008	Benzene	
2009	Benzene, NAPs	
2010	Benzene	

ROICC Contractor's Area (UST ROICC-7) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-201	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, VOCs, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, DRO fractions, RRO, NAPs	
2003	Discontinued monitoring; no exceedances of criteria except methylene chloride	
2004	Monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-202	MNA, NAE	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, VOCs, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, DRO fractions, RRO, NAPs	
2003	GRO, BTEX, NAPs	
2004	GRO, BTEX, NAPs	
2005	GRO, BTEX	
2006	GRO, BTEX	
2007	GRO, BTEX	
2008	Benzene	
2009	Benzene, NAPs	
2010	Benzene (even years only)	

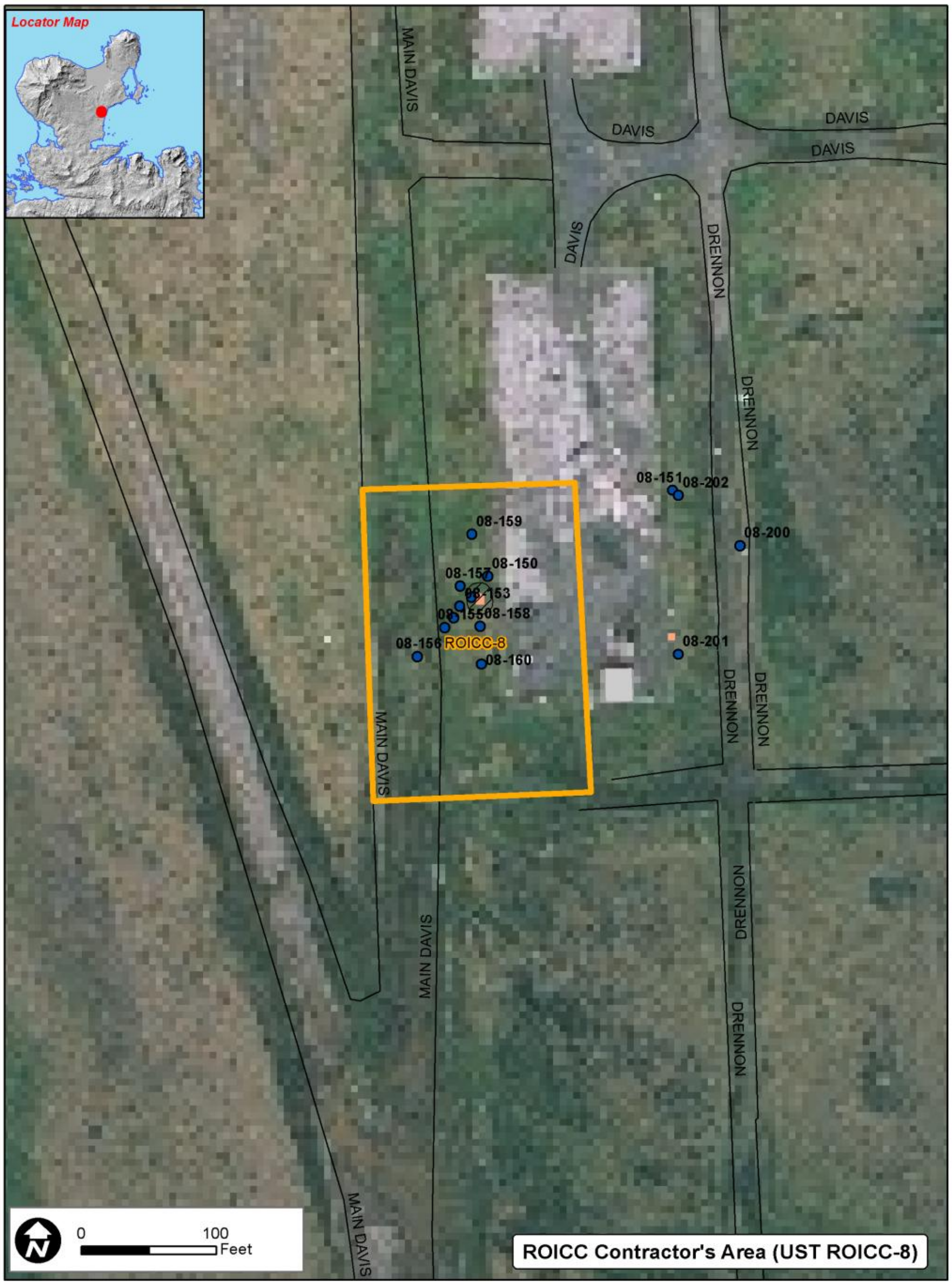
SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 34, 41, 52, 62, 84, 86, 90, 91, 125, 129, 134

ROICC Contractor's Area (UST ROICC-8) OU A - SAERA



ROICC Contractor's Area (UST ROICC-8) OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence. IC inspections are required.

BACKGROUND:

The ROICC Contractor's Area is located north of the airport and downtown Adak in an unpopulated area. The ROICC Contractor's Area was used for storage of equipment and supplies for contractors working for the Navy. UST ROICC-8 was located near the southwest corner of the southern concrete pad in the ROICC Contractor's Area approximately 180 feet west of an adjacent petroleum-release site (ROICC Contractor's Area, UST ROICC-7). The raised concrete pad is situated between the two sites.

The general topography of the site is flat. The eastern margin of a large marsh area is located approximately 50 feet southwest of the source area. Kuluk Bay is located approximately 0.5 mile east of the former location of UST ROICC-8. Groundwater flow varies at the site, generally flowing to the southeast toward Kuluk Bay. However, occasionally groundwater flows to the southwest toward the marsh. The groundwater surface has been observed between 1 and 4 feet bgs at the site. Subsurface material observed at the site consists of fine-grained silty sand. The sandy material typically possesses a high water-bearing capacity.

The history and use of the UST ROICC-8 are not documented. The UST was removed in 1995. The excavated tank was in fair condition with moderate to heavy surface rust. The associated piping, which was moderately to heavily rusted, was removed together with the tank. The source of petroleum release is not recorded, but it appears to have originated from the UST. DRO was reported at a concentration of 11,000 mg/kg in the soil sample collected from the south end of the tank, exceeding the ADEC Method One soil cleanup level (200 mg/kg) established for this compound.

In 1996, nine monitoring wells and two soil borings were installed at the site. DRO concentrations in the soil ranged from not detected to 801 mg/kg. GRO and BTEX were not detected in the soil. The maximum DRO and GRO concentrations reported in groundwater samples were 500 µg/L and 817 µg/L, respectively, from well 08-153. In addition, benzene was detected at a concentration of 24.8 µg/L in well 08-151.

In 1998, groundwater from wells 08-153 and 08-160 was resampled. Benzene and GRO were detected at concentrations of 1.4 µg/L and 110 µg/L, respectively, in well 08-153. Xylenes were detected at levels barely above the detection limit in both wells. No other constituents were reported.

ROICC Contractor's Area (UST ROICC-8) OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	16
Number of Pre-Rod Samples	36
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Borehole/Soil boring, Excavation, Monitoring well, Pipeline, Well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

<u>Groundwater</u>

- Benzene

<u>Soil</u>

- DRO

RAOs:

The OU A ROD for the petroleum site ROICC Contractor's Area (UST ROICC-8) established the following RAOs for the ROICC Contractor's Area (UST ROICC-8) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

ROICC Contractor's Area (UST ROICC-8) OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA and ICs.

In 1999, wells 08-153 and 08-160 were resampled as part of the natural attenuation monitoring program. Analytical results from groundwater samples were below the ROD-established ADEC 18 AAC 75.345 Table C values for three consecutive sampling events. Groundwater monitoring was discontinued at this site in 2003, because concentrations had achieved endpoint criteria.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 152 and 157 to achieve NFA. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including ROICC-8. ICs specific to UST ROICC-8, and IC inspection requirements, were included in the OU A ROD and the ICMP.

ROICC Contractor's Area (UST ROICC-8) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Landfill Inspection
- ☐ Surface Water Monitoring
- ☑ IC Inspection — Click to View ICMP Table
- ☐ Sediment Monitoring
- ☐ Remediation System Monitoring and Maintenance
- ☐ Tissue Monitoring
- ☐ None Required

Most Recent Sampling Date October 2002 **Most Recent Inspection Date:** September 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-153	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
08-160	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

Both the 5 year review inspection in August 2010 and the annual IC inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended.

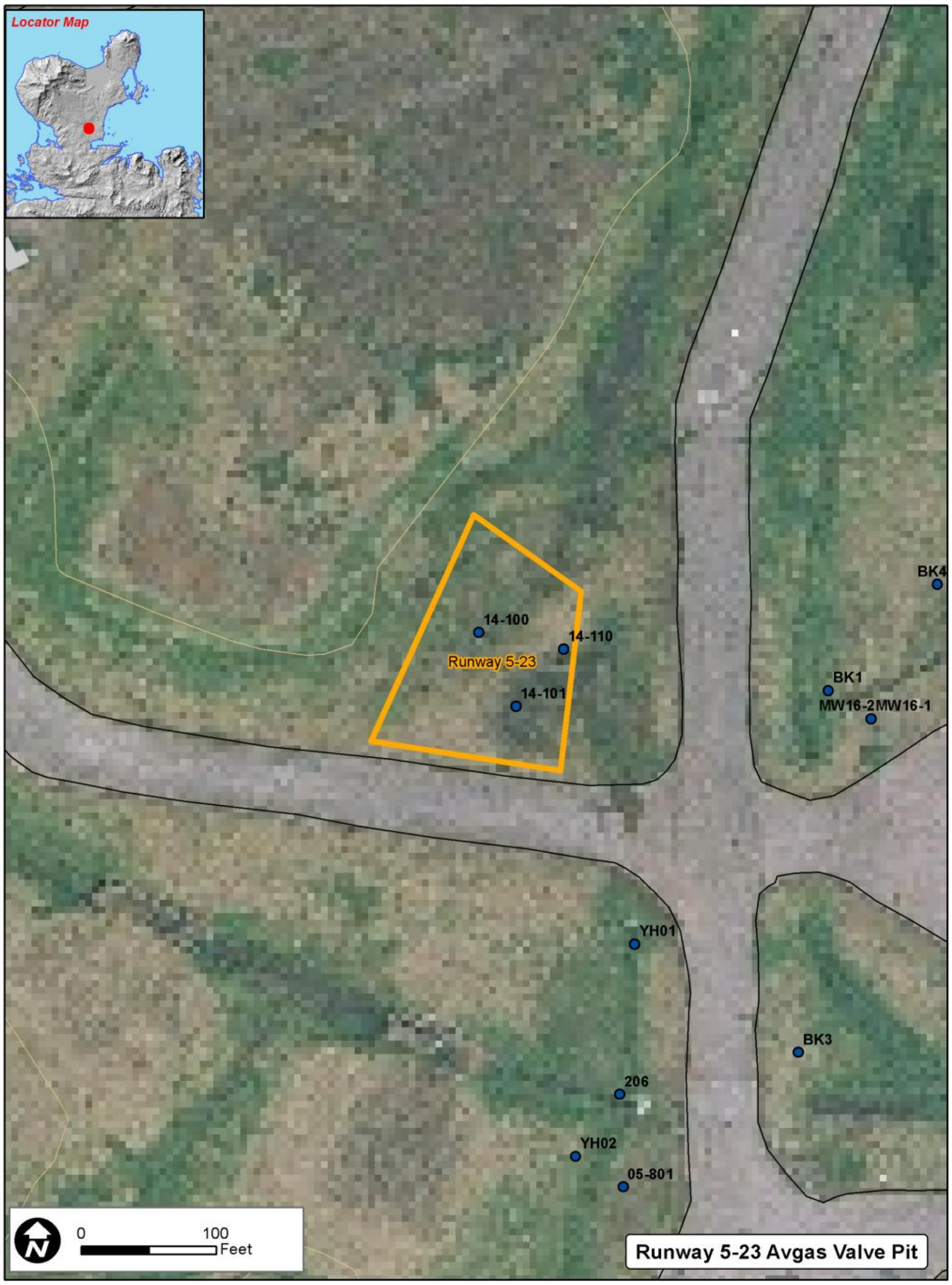
ROICC Contractor's Area (UST ROICC-8) — OU A - SAERA

BIBLIOGRAPHY:

2, 28, 52, 62, 84, 86, 90, 91, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

Runway 5-23 Avgas Valve Pit OU A - SAERA



Runway 5-23 Avgas Valve Pit — OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

The Runway 5-23 Avgas Valve Pit is located approximately 800 feet south of the southern end of Runway 5-23 and 50 feet west of a former truck fill stand. The valve pit is associated with an abandoned 6-inch-diameter avgas transfer pipeline that supplied fuel to the Runway 5-23 truck fill stand. The pipeline has been abandoned after removal of the aboveground portions of the piping, draining of fuel from the buried sections, and capping of the pipe ends.

In 1994, a product sheen was observed on the groundwater surface in the excavation opened to remove the valve. One soil sample collected during the valve removal contained GRO at concentrations greater than ADEC matrix levels. No records are available on petroleum releases at this facility. The release mechanism is unknown, but probably includes leaks from the piping and valve.

Two groundwater monitoring wells were installed in 1996. Concentrations of GRO in soil samples collected from location 14-100 exceeded ADEC soil cleanup levels. Well 14-100 was sampled in 1996, 1997, and 1998. Concentrations of GRO exceeded the ADEC matrix levels.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	2
Number of Pre-Rod Samples	8
Potential Contaminat Types Evaluated	Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Monitoring well, Well

Runway 5-23 Avgas Valve Pit — OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

Groundwater

- Benzene
- GRO

Soil

- GRO

RAOs:

The OU A ROD for the petroleum site Runway 5-23 Avgas Valve Pit established the following RAO for the Runway 5-23 Avgas Valve Pit on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA and ICs.

Natural attenuation monitoring was initiated in 1999 and is ongoing. Benzene, aliphatic GRO, and total GRO concentrations in groundwater were greater than ADEC groundwater cleanup levels between 1999 and 2002. A new well, 14-110, was installed in 2003 to better evaluate groundwater characteristics. DRO analyses were discontinued in 2003, since concentrations met the monitoring endpoint criteria.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including Runway 5-23.

Environmental Restoration Site Report
Adak Island, Alaska

Runway 5-23 Avgas Valve Pit — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled GRO

Current Monitoring Click to View Current Monitoring **Monitoring File:** Runway5-23AvgasValvePit_MonCurr.pdf

Runway 5-23 Avgas Valve Pit **OU A - SAERA**

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
14-100	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2003	GRO, GRO fractions, BTEX, NAPs	
2004	GRO, GRO fractions, BTEX, NAPs	
2005	GRO (annually)	
2006	GRO, BTEX (even years only)	
2007	GRO	
2008	GRO, BTEX	
2009	GRO, NAPs	
2010	GRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
14-110	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	GRO, GRO fractions, BTEX, NAPs	
2004	GRO, GRO fractions, BTEX, NAPs	
2005	GRO, BTEX	
2006	BTEX	
2007	GRO	
2008	GRO (even years only)	
2009	NAPs	
2010	GRO (even years only)	

Runway 5-23 Avgas Valve Pit — OU A - SAERA

SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 31, 34, 39, 41, 44, 52, 62, 84, 86, 90, 91, 125, 129, 134

SA 76 - Old Line Shed Building OU A

SA 76 - Old Line Shed Building OU A

STATUS: IC inspections.

BACKGROUND:

SA 76, Old Line Shed Building, measures approximately 500 feet (north-south dimension) by 320 feet (east-west dimension), or 3.7 acres in area. The site is located approximately 1,500 feet north of Sweeper Cove and 2,400 feet west of Kuluk Bay. The elevation ranges from approximately 25 feet above msl on the northern edge of the site to 20 feet above msl at the southern boundary. The dominant feature of SA 76 is a concrete foundation pad measuring 75 feet (east-west dimension) by 200 feet (north-south dimension).

Available historical information indicates the Old Line Shed Building was once used for office space, living quarters for the line crew, and storage space for a variety of materials, including transformers. Information about construction dates is not available. In 1982, the building was damaged during a severe windstorm and was rendered uninhabitable. The structure was later removed, and the remaining foundation pad was used to store stockpiled soils.

Review of historical records and documents for SA 76 did not indicate prior disposal or burial of materials containing hazardous waste. There are three known potential sources of petroleum hydrocarbons: (1) the underground fuel (gasoline and diesel) supply lines from the mogas supply system formerly located at SWMU 75 west of the site, (2) the former automobile service station located south of the site at SWMU 14, and (3) the fuel oil release associated with the Adak housing area near the site (SWMU 62). The mogas ASTs were dismantled in the 1960s. It is unknown whether the underground supply lines were abandoned in place. The former service station at SWMU 14 was abandoned in the mid-1980s. During operations, the facility serviced vehicles with leaded and unleaded gasoline. Heating oil has leaked from piping at much of the housing area north of the site. No other potential sources of chemicals associated with past site activities have been identified.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	9
Number of Pre-Rod Samples	10
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Ground surface

SA 76 - Old Line Shed Building OU A

COCs AND RISKS:

Analytical data from the limited site inspection were used in the PSE-1 Batch 2 report to evaluate human health and ecological risks. The human health cancer risk using the Adak residential scenario was 1E-04, and the risk using the occupational and recreational scenario was more than an order of magnitude lower. Arsenic in soil and lead in groundwater were the risk drivers. Noncancer risks were below the target HI of 1. The ecological risk was summarized by an HI of 11, which is slightly above the target level of 10 or lower. The site is industrial and provides poor natural habitat for ecological receptors. Human health cancer risks greater than 1E-05 were driven by the chemicals listed below (in surface soil and groundwater) in the OU A ROD. Total lead was identified as a groundwater COC in the OU A ROD because of exceedance above the MCL. (Table 6-5 and 10-3 of the OU A ROD)

Groundwater

- Lead

Soil

- Arsenic
- Indeno(1,2,3-cd)pyrene

RAOs:

The OU A ROD for the CERCLA site SA 76, Old Line Shed Building established the following RAOs for the SA 76 - Old Line Shed Building (Table 7-2, and pg. 10-6 of the OU A ROD):

- Protect ecological exposure to soil.
- Protect human health exposure to soil and groundwater.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is ICs.

SA 76 was one of four sites where the OU A ROD required compliance groundwater sampling to verify that lead concentrations did not exceed MCLs. Groundwater samples were collected and analyzed in 2001 and 2002. At well 76-147, samples were analyzed for and analyzed for TPH, VOCs, and total and dissolved lead (which was discontinued in 2002). At well 76-148, samples were analyzed for total and dissolved lead. Groundwater samples at both wells met the endpoint criteria specified in the OU A ROD and monitoring at the site was discontinued after the 2002 monitoring event.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SA 76.

SA 76 - Old Line Shed Building | OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐	Groundwater Monitoring	☐	Landfill Inspection	
☐	Surface Water Monitoring	☑	IC Inspection	**Click to View ICMP Table**
☐	Sediment Monitoring	☐	Remediation System Monitoring and Maintenance	
☐	Tissue Monitoring	☐	None Required	

Most Recent Sampling Date October 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SA 76 - Old Line Shed Building OU A

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
76-147	Compliance	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, VOCs, total and dissolved lead, NAPs	
2002	GRO, GRO fractions, BTEX, DRO fractions, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
76-148	Compliance	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Total and dissolved lead	
2002	Total and dissolved lead	
2003	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended. The 2010 IC report recommends an excavation restriction sign be placed at the site.

BIBLIOGRAPHY:

53, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SA 77 - Fuels Facility Refueling Dock - SDSA **OU A - SAERA**

SA 77 - Fuels Facility Refueling Dock - SDSA OU A - SAERA

STATUS: Conditional closure with IC inspections.

BACKGROUND:

SA 77, the Fuels Facility, is located west of Sweeper Cove on the east side of Transit Road near its intersection with Cross Road. The Small Drum Storage Area, situated at the southwest corner of the Fuels Facility, was a temporary transfer area for sealed 55-gallon drums containing non-hazardous petroleum-based residuals and mopping rags generated from the Fuels Division operations between 1980 and 1994. The former drum storage area measures approximately 15 feet by 40 feet.

The Small Drum Storage Area is characterized by flat terrain. However, a manmade berm lies approximately 40 feet to the northeast, and ponding may occur during rainstorms. The ground at the site is covered by compacted gravel. The site is 205 feet west of Sweeper Cove. The geology is composed of near-surface sandy soils derived from stream deposition and dredged fill material. Below the near-surface sandy soils are sands and gravels with varying portions of silt. Groundwater flows east through this area towards Sweeper Cove and is tidally influenced. Data collected from monitoring wells near the site (South of Runway 18/36) indicate groundwater levels of approximately 8 to 10 feet bgs.

In June 1989, the site was listed as a source area (SA 77), because the EPA observed that drums were not labeled during a site inspection of the site. EPA assumed the drums to be improperly handled containers holding unknown waste compounds. In December 1994, a facility review by EMCON revealed three small, empty ASTs, two empty 55-gallon drums, one 55-gallon drum containing JP-5 contaminated pads, and several miscellaneous equipment filters.

In July 1993, DRO concentrations above the ADEC soil matrix level were noted in seven of nine surface soil samples collected from the areas where drums historically had been stored. The maximum detected concentration of DRO in surface soil was 2,200 mg/kg. Neither GRO nor BTEX were detected in any of the samples. Three additional hand auger soil borings were installed in 1998, and DRO was detected in one boring at a concentration above the ADEC soil cleanup level.

Because the site had not operated as a satellite accumulation area under RCRA and because the material stored at the site was not a hazardous waste, reports and inventory data do not exist. No records of petroleum releases are available.

The site was 'clean closed' under RCRA in 1995 (with the ICs that restrict the property from future residential land use development), because the data collected during the RCRA closure showed that RCRA-regulated hazardous wastes were not present at the SDSA at concentrations warranting corrective action.

SA 77 - Fuels Facility Refueling Dock - SDSA — OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	9
Number of Pre-Rod Samples	10
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Soil

- DRO

RAOs:

The OU A ROD for the petroleum site SA 77, Fuels Facility Refueling Dock, SDSA established the following RAO for the SA 77, Fuels Facility Refueling Dock, SDSA (Table 7-4 of the OU A ROD):

- Reduce petroleum concentrations in soil.

SA 77 - Fuels Facility Refueling Dock - SDSA **OU A - SAERA**

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited soil removal.

Approximately 150 cubic yards of contaminated soil at the SA-77 site was excavated from the site on October 9-12, 2006. The excavation of contaminated soil was guided by field screening using a PID. Soil contamination was identified in surface soil to a depth of 2.5 feet bgs. Following excavation, five confirmation soil samples were collected for laboratory analysis. Laboratory results were below the ADEC Method 2 soil cleanup levels with one exception: sample SA77-N collected from the base of the northern wall of the excavation contained 560 mg/kg DRO. ADEC concurred with conditional closure of the site, with continued ICs, in 2007.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SA 77. ICs specific to SA 77 were not required by the OU A ROD; however, ICs were required as part of the RCRA closure and part of the conditional closure of the site by ADEC. ICs and annual inspections are required for this site under the ICMP.

SA 77 - Fuels Facility Refueling Dock - SDSA   OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection   Click to View ICMP Table
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date October 2006   **Most Recent Inspection Date:** August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required   **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

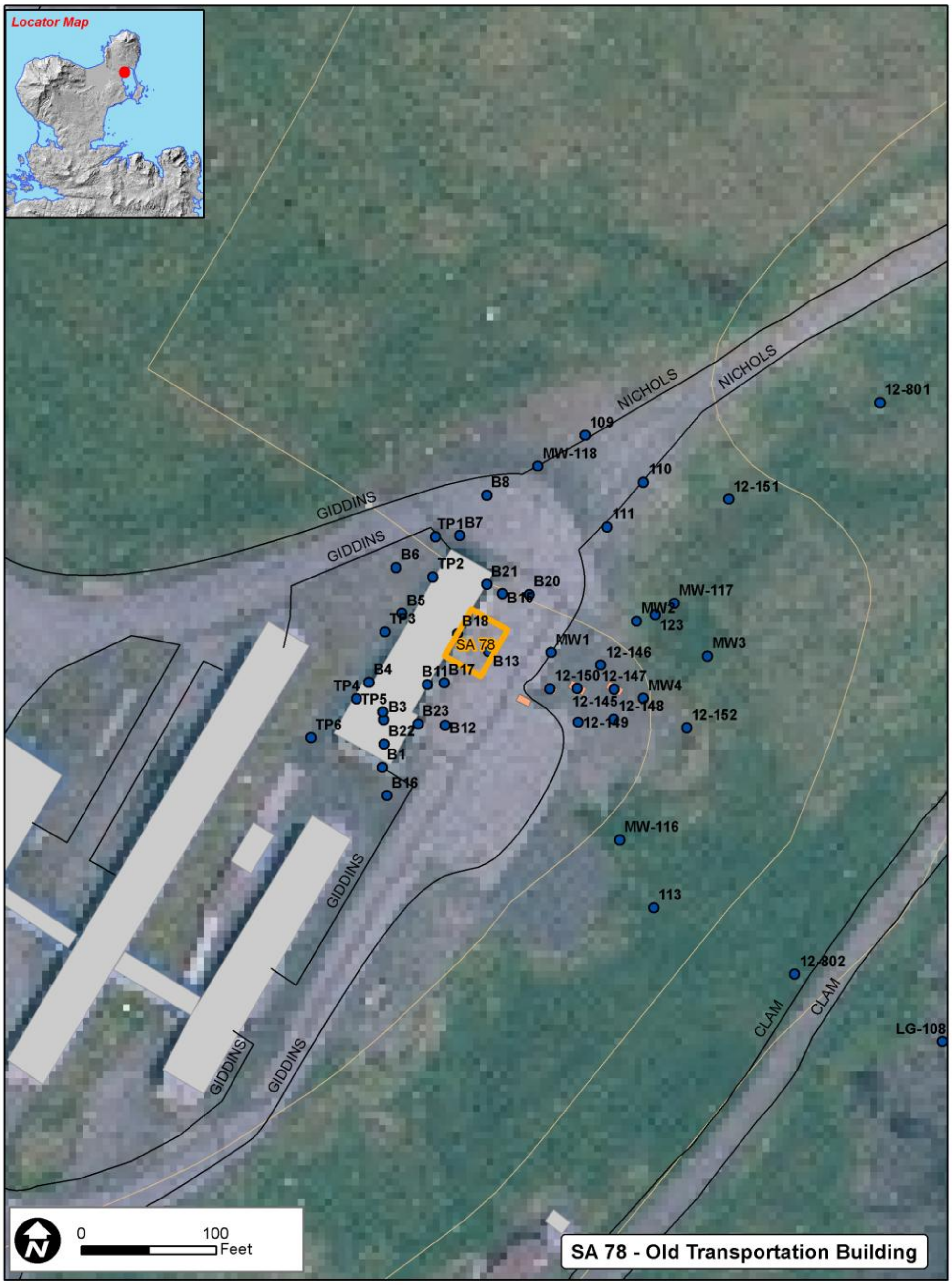
The site inspection conducted in August 2010 for the five-year review noted an oily sheen on small puddles near the active fuel pumps, as well as poorly stored drums adjacent to the fuel facility building, near the site. The IC inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

67, 84, 86, 91, 92, 97, 117, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SA 78 - Old Transportation Building | OU A - SAERA



SA 78 - Old Transportation Building — OU A - SAERA

STATUS: Groundwater, surface water, and sediment monitoring; IC inspections.

BACKGROUND:

SA 78, Old Transportation Building, is located approximately 5 miles north of downtown Adak in the NSGA complex, on the lower southern slope of Mount Adagdak, near the northwestern shore of Clam Lagoon. The Old Transportation Building was used as the NSGA fire station and transportation garage from 1950 until mid-1991. Two USTs and two ASTs were used at the Old Transportation Building site to store mogas for vehicle fueling from the early 1960s until 1993. Exact installation dates of the USTs and ASTs are unknown.

The area east of the Old Transportation Building was filled, graded flat, and used as a vehicle fueling area. Although the site has been graded level, the surrounding topography of the Old Transportation Building site slopes southeast toward Clam Lagoon. Surface water runoff generally flows southeast toward Clam Lagoon, approximately 250 feet from the source area.

Environmental investigations during November 1990, May 1991, and February 1992 were conducted to evaluate soil and groundwater conditions at the Old Transportation Building as part of the preconstruction for a new BEQ that was never built. Petroleum hydrocarbons were detected in surface soil and groundwater samples collected from the former fueling area during these investigations.

In May 1993, UST 10583 was excavated, removed, cleaned, and disposed of. The two ASTs were removed during the excavation of UST 10583. Soil contamination and fuel leaking from piping connected to both ASTs and the UST were observed during tank removal activities. UST 10584 could not be located to be removed, and no records were available to confirm that the UST has been removed. GRO and BTEX were not detected in the three in-place soil samples collected from the excavation. However, these analyses were rejected because they did not meet ADEC protocols.

Three monitoring wells (MW-116, MW-117, and MW-118) were installed in 1994 during the PSE-2 at several nearby sites. DRO was detected in the soil at location 10 and GRO and BTEX were detected in the groundwater in wells MW-117 and MW-118, downgradient of former UST 10583. No analytes were detected in the sediment samples collected along Clam Lagoon and an outfall discharge point. Between 1996 and 1997, seven soil borings and three monitoring wells (12-145, 12-151, and 12-152) were installed in the vicinity of the Old Transportation Building USTs and ASTs. DRO was detected in soil at all but one location and DRO, GRO, and BTEX were detected in groundwater from wells MW-117, 12-145, 12-151, and 12-152. Similar results were found when well MW-117 was resampled in 1997, 1998, and well 12-145 was resampled in 1997. Two downgradient monitoring wells (12-801 and 12-802) were installed in 1998. No constituents were detected in the groundwater samples collected from these wells in 1998, 1999, or 2000.

Monitoring wells in the vicinity of the Old Transportation Building site have been gauged periodically for the presence of free product. Since November 1996, free product has been detected five times in only one of seven wells: 12-145. An absorbent product removal device was installed in monitoring well 12-145 during October 1997. To evaluate product recovery rates, the absorbent device was checked monthly until

June 2000. In spite of these efforts, a measurable quantity of free product was not recovered at this site. Because a measurable quantity of free product was not recovered at this site during the 33-month period from October 1997 to June 2000, the Navy contends that free product has been recovered at the site to the maximum extent practicable following the requirements of the ROD for OU A and 18 AAC 75.325(f)(1)(B). Product recovery efforts were discontinued at this site during July 2000.

While ADEC did not specifically concur with the cessation of the product recovery efforts at SA 78, Old Transportation Building site, ADEC has been involved and concurred with subsequent decisions regarding the site.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	48
Number of Pre-Rod Samples	149
Potential Contaminat Types Evaluated	Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Marine sediment, Near-surface soil, Sediment , Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Geoprobe well, Holding pond/Lagoon, Monitoring well, Outfall, Test Pit, Well

SA 78 - Old Transportation Building OU A - SAERA

COCs AND RISKS:

SA 78 was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery. The OU A ROD generally identified COCs for petroleum sites based on exceedances above State of Alaska screening criteria or MCLs. At the time of the OU A ROD, specific exceedances were not documented for SA 78. Instead, the OU A ROD focused on free product at this site.

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the additional evaluation under SAERA. This site poses no unacceptable risk to human health or the environment above target health goals, provided that ICs remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at SA 78 is not considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established the following cleanup levels based on ADEC regulatory criteria for the following COCs:

Groundwater

- Benzene
- GRO
- Methylene chloride

RAOs:

The OU A ROD for the petroleum site SA 78, Old Transportation Building established the following original RAO for the SA 78, Old Transportation Building (Table 7-4 of the OU A ROD):

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below Alaska DEC groundwater cleanup levels.
- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

SA 78 - Old Transportation Building — OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery.

Free product monitoring and recovery was conducted at this site from November 1996 to July 2000, when free product recovery was terminated.

A decision document for final remedial action for the petroleum sites with no unacceptable risk was signed May 20, 2005. The decision document identifies MNA monitoring as the final remedy. Monitoring activities were implemented in 2005 via changes to the CMP.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SA 78. ICs specific to SA 78 were not required by the OU A ROD; however, ICs were included as part of the final remedy in the 2005 SAERA document. ICs (groundwater restrictions in the downtown area) were originally implemented at this site in 2000, and ICs and annual inspections are required for this site under the ICMP.

SA 78 - Old Transportation Building — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Free product recovery was conducted during 2009 and 2010, but discontinued in June 2010.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [x] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [x] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled DRO, GRO, BTEX, TAH, TAqH, product thickness

Current Monitoring Click to View Current Monitoring **Monitoring File:** SA78OldTransportationBuilding_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-145	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	DRO, DRO fractions, GRO, GRO fractions, VOCs	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO, GRO, BTEX	
2006	Free product detected, not sampled, product thickness (monthly)	
2007	DRO, GRO, BTEX, product thickness (monthly)	
2008	Free product detected, not sampled, product thickness (monthly)	
2009	DRO, GRO, BTEX, NAPs, product thickness (monthly)	
2010	DRO, GRO, benzene, product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-152	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO not analyzed due to limited sample volume, GRO, BTEX	
2006	BTEX, DRO and GRO not analyzed due to limited sample volume	
2007	Well dry, not sampled	
2008	Well dry, not sampled	
2009	Well dry for last three years; monitoring discontinued	

SA 78 - Old Transportation Building — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-801	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	Monitoring not planned	
2008	DRO, GRO, BTEX	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-802	SW protection, NAPs background	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX, NAPs	
2005	DRO, GRO, BTEX, NAPs	
2006	DRO, GRO, BTEX, NAPs	
2007	NAPs	
2008	DRO, GRO, BTEX, NAPs	
2009	NAPs	
2010	DRO, GRO, benzene	

SA 78 - Old Transportation Building — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-116	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	DRO, DRO fractions, GRO, GRO fractions, VOCs
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO, GRO, BTEX
2006	DRO, GRO, BTEX
2007	DRO, GRO, BTEX
2008	Monitoring not planned
2009	DRO, GRO, BTEX, NAPs
2010	DRO

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-117	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	DRO, DRO fractions, GRO, GRO fractions, VOCs
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO, GRO, BTEX
2006	DRO, GRO, BTEX
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	NAPs
2010	Product thickness

SA 78 - Old Transportation Building — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-10	SW protection	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	Monitoring not planned
2010	No sample collected because no contamination was observed

SUMMARY OF INSPECTION RESULTS:

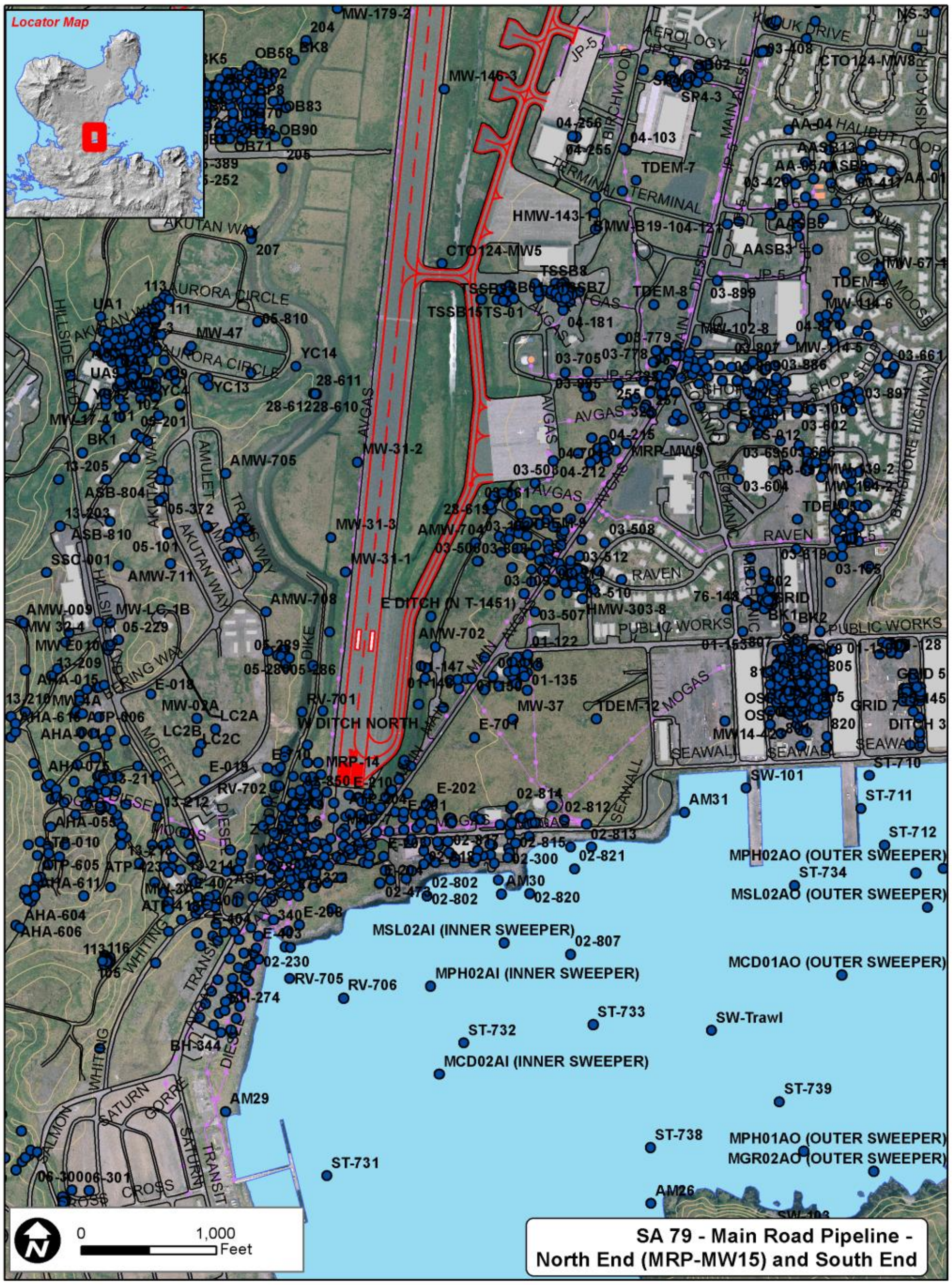
The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. The 2010 IC report indicates Ics appear to be functioning as intended.

BIBLIOGRAPHY:

29, 31, 34, 39, 41, 44, 52, 62, 77, 84, 86, 90, 91, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

SA 79 - Main Road Pipeline **OU A - SAERA**



SA 79 - Main Road Pipeline OU A - SAERA

STATUS: Groundwater monitoring, IC inspections, additional site characterization.

BACKGROUND:

The southern portion of the Main Road Pipeline runs south along Transit Road, between the traffic circle and the former Aleutian Steak House restaurant. The Main Road Pipeline historically supplied JP-5 for multiple facilities, including aircraft refueling hydrants, residential heating oil distribution tanks, and the Steam Plant 4 fuel supply tanks. The pipeline is 6 inches in diameter and approximately 9,800 feet long. Most of the southern portion of the pipeline runs through open grassy areas. The northern part of the pipeline is bordered on the east by Main Road and on the west by the airfield. This northern section passes through residential housing and industrial facilities. There are six valve boxes along the pipeline. The Main Road Pipeline was reportedly cleaned but not closed. Other pipelines are present in the vicinity of the site including a 10-inch avgas and 4-inch mogas pipeline. Both of these pipelines have been cleaned and closed.

Impacted soils were observed during repair and replacement of sections of the pipeline in 1990. It was unclear whether the soils were impacted from leaks within the pipeline, or from other sources. In 1992, DRO was detected at concentrations above the Alaska soil matrix level in several soil samples collected from points along the southern portion of the pipeline. Monitoring well MRP-MW8 was installed in the vicinity of the maximum DRO concentration detected. Exceedances of the ADEC cleanup values were noted in the soil and groundwater samples collected from location MRP-MW8. When the well was resampled in 1997 and 1998, DRO concentrations still exceeded the Alaska groundwater cleanup criterion. However, GRO and BTEX were not detected.

Monitoring well 02-230 was installed between well MRP-MW8 and Sweeper Cove in 1999. Benzene and DRO concentrations in soil exceeded the ROD-established soil cleanup criteria in this boring.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	43
Number of Pre-Rod Samples	92
Potential Contaminat Types Evaluated	Inorganics, Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Monitoring well, Test Pit, Well

SA 79 - Main Road Pipeline — OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria:

Groundwater

- DRO

Soil

- Benzene
- DRO

RAOs:

The OU A ROD for the petroleum site SA 79, Main Road Pipeline (North End and South End) established the following RAO for the SA 79, Main Road Pipeline (Table 7-4 of the OU A ROD):

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is limited groundwater monitoring.

Limited groundwater monitoring for lead was initiated at the north end of this site (well MRP-MW15) in 1999. Lead monitoring met the endpoint criteria and monitoring at the north end of this site was terminated after the 2003 event.

Limited groundwater monitoring was initiated at the south end of this site in 1999. Target analyte concentrations in groundwater were less than ADEC groundwater cleanup levels for two consecutive sampling events, although DRO was detected in both wells during November 1999. Groundwater monitoring was continued at these locations, because of the proximity to Sweeper Cove. DRO concentrations have been detected above the ADEC cleanup levels since 2001. In 2010, additional site characterization was performed to assess whether DRO is migrating in groundwater to the adjacent surface water body (Sweeper Cove) at concentrations greater than ADEC surface water criteria. Six soil borings were drilled and two monitoring wells were installed and soil and groundwater samples were collected. A total of 16 samples were submitted to the laboratory for DRO analysis by Alaska Method AK 102. Groundwater samples from the two new wells and two existing wells were submitted to the laboratory for the following analyses: DRO by Alaska Method AK 102, VOCs by EPA Method 8260B, and SVOCs by EPA Method 8270C. No samples contained TAH or TAqH in excess of their applicable surface water criteria.

DRO was detected in eight of the 16 soil samples. Detected concentrations ranged from 47 mg/kg to 26,000 mg/kg. Concentrations detected in the eight samples were collected from five locations (601, 603, 604, 605, and 606). Exceedances of the ADEC cleanup level of 230 mg/kg for DRO were present in soil collected from four locations (601, 603, 604, and 605) located at the northern portion of the site.

DRO concentrations detected in the groundwater samples exceeded the ADEC cleanup level of 1,500 µg/L in three of the four samples collected from the site. Samples from wells 601, 02-230, and MWRP-MW8 contained DRO concentrations of 2,500 µg/L, 3,600 µg/L, and 2,400 µg/L, respectively. Each of these wells is located in the northern portion of the site. No groundwater samples contained detected concentrations of VOCs or SVOCs in excess of individual ADEC cleanup levels.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SA 79. No ICs specific to the Main Road Pipeline site were established in the OU A ROD; however, ICs and inspection requirements are included for this site in the ICMP.

SA 79 - Main Road Pipeline — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled DRO

Current Monitoring Click to View Current Monitoring **Monitoring File:** SA79MainRoadPipelineSouthEnd_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-230	SW protection, MNA, NAE	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, NAPs	
2005	DRO, visual inspection	
2006	DRO, visual inspection	
2007	DRO, visual inspection	
2008	DRO, TAH, TAqH, visual inspection	
2009	DRO, TAH, TAqH, NAPs, visual inspection	
2010	DRO, visual inspection	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-403	NAE	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	DRO	
2009	DRO	
2010	Met endpoint criteria; monitoring discontinued	

SA 79 - Main Road Pipeline — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MRP-MW15	Compliance	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Total and dissolved lead	
2004	Total and dissolved lead	
2005	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MRP-MW8	MNA, NAE	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, NAPs	
2005	DRO, visual inspection	
2006	DRO, visual inspection	
2007	DRO, visual inspection	
2008	DRO, TAH, TAqH, visual inspection	
2009	DRO, TAH, TAqH, NAPs, visual inspection	
2010	DRO, visual inspection	

SA 79 - Main Road Pipeline — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-01	SW protection	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	DRO, visual inspection
2008	DRO, TAH, TAqH, visual inspection
2009	Met endpoint criteria; monitoring discontinued

SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found no indications that groundwater was being used. New monitoring wells were installed during summer 2010 as part of additional site characterization activities. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 31, 34, 39, 41, 44, 52, 62, 74, 77, 84, 86, 89, 90, 91, 112, 118, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

SA 80 - Steam Plant 4	OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

The SA 80, Steam Plant 4, USTs 27089 and 27090 site is located in the northern end of downtown Adak, approximately 2,000 feet east of Runway 18-36, 2,800 feet south of Runway 5-23, and approximately 2,500 feet southwest of NORPAC Hill. Steam Plant 4 was used to supply steam to various buildings in the area. The Steam Plant was built in the late 1940s and was operational until 1995, when an earthquake severed the main steam line that connected the steam plant to buildings in the area. USTs 27089 and 27090 were 22,000-gallon tanks installed in 1950 and stored JP-5 fuel used for the boilers in the steam plant. The USTs were filled from the Main Road Pipeline (6-inch JP-5), which passes through the site.

The regional topography in this vicinity slopes gently toward the southwest, through the general topography of the site is flat to slightly undulating. Kuluk Bay is approximately 2,500 feet east of the site. The closest downgradient surface water body is East Canal, located approximately 1,400 feet west of the site.

Two releases were reported to have occurred at the site. In June 1991, a release of approximately 50 to 70 gallons occurred when a fill hole ruptured while servicing the tanks. In May 1995, prior to the removal of UST 27089, trace amounts of fuel reportedly dripped to surrounding soils from the ends of a section of the Main Road Pipeline under repair. Immediately following this release, 5 cubic yards of soil was removed from the area. It is unknown whether a spill or release occurred directly from either of the USTs during their use.

In 1992, three monitoring wells (SP4-1, SP4-2, and SP4-3) were installed near the tank farm in response to the 1991 release. DRO and GRO were detected in both soil and groundwater samples collected from wells SP4-1 and SP4-2, and DRO was detected in the groundwater in well SP4-3.

In October 1993, UST 27090 showed signs of minor corrosion when it was removed. UST 27089 failed a tightness test later in 1993 and was deactivated. Associated piping connecting UST 27089 to the steam plant was removed in 1994. At that time, oily water was discovered in a concrete utility vault/corridor that contained the piping connecting the UST to the steam plant. Following removal of the oily water, the vault was removed. When UST 27089 was removed in May 1995, the tank contained 4,000 gallons of oily water and showed little signs of corrosion. No holes were observed in the tank; however, the large quantity of water in the tank suggests that a hole may have been present. Soil samples collected from both excavations exhibited DRO concentrations above the ADEC soil matrix level.

Between 1996 and 1997, five soil borings, one 0.5-inch monitoring well, seven 2-inch monitoring wells, three 4-inch recovery wells, and one 6-inch recovery well were installed at the site. DRO and GRO were detected in the majority of samples analyzed. Well 04-164 was resampled in 1998 and 2002, and DRO, GRO and BTEX were present in the groundwater sample. Monitoring well 04-801 was installed downgradient of the site in 1998 as part of the Comprehensive Monitoring Program, and no constituents have been detected in samples collected between 1998 and 2002.

Free product has been observed in six of 15 wells (SP4-2, 04-155, 04-157, 04-158, 04-159, and 04-173) at the site since 1997. Passive-style skimmers were initially installed in 1997 in wells SP4-2 and 04-155, where product was frequently detected. However, after further evaluation, skimmers were subsequently installed in wells 04-157, 04-158, and 04-173, where free product was intermittently present. Less than 25 gallons of free product were recovered at SA 80 between January 1997 and June 2000. Free-product recovery efforts at the site were terminated during July 2000, because the Navy contends that free product has been recovered at the site to the maximum extent practicable.

While ADEC did not specifically concur with the cessation of the product recovery efforts at the SA 80, Steam Plant 4 site, ADEC has been involved and concurred with subsequent decisions made regarding this site.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	28
Number of Pre-Rod Samples	101
Potential Contaminat Types Evaluated	Inorganics, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Excavation, Monitoring well, Recovery well, Well

SA 80 - Steam Plant 4 — OU A - SAERA

COCs AND RISKS:

SA 80 was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery. The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

Groundwater

- Benzene
- Benzo(a)anthracene

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the additional evaluation under SAERA. This site poses no unacceptable risk to human health or the environment above target health goals, provided that ICs remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at SA 80 is not considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established the following cleanup levels based on ADEC regulatory criteria for the following COCs:

Groundwater

- Benzene
- DRO

RAOs:

The OU A ROD for the petroleum site SA 80, Steam Plant established the following original RAO for the SA 80, Steam Plant, SDSA (Table 7-4 of the OU A ROD):

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below Alaska DEC groundwater cleanup levels.

- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery.

Free-product recovery was conducted at the site from 1997 through June 2000. A decision document for final remedial action for the petroleum sites with no unacceptable risk was signed May 20, 2005. The decision document identifies MNA monitoring and ICs as the final remedy. Monitoring activities were implemented in 2005 via changes to the CMP. In addition to the required MNA and IC components of the final remedy, the 2005 SAERA decision document also required additional follow-up sampling to support the remedy decision. Two additional soil samples were required in the vicinity of existing location 9. The goal of this sampling was to evaluate the natural attenuation process within vadose zone soil by comparing the concentrations of petroleum-related chemicals in the soil samples to concentrations reported in soil samples collected during 1997. One additional groundwater sample was also required from monitoring well 04-173, along with free product measurement and removal (if found).

These additional samples were collected and analyzed in September 2004 (based on the requirements in a draft version of the decision document). Free product measurement and removal also was conducted in September 2004. Soil results identified DRO in soil from 6 - 7 ft bgs at a concentration exceeding the ADEC cleanup level.

The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SA 80. Ics specific to SA 80 were not required by the OU A ROD; however, ICs were included as part of the final remedy in the 2005 SAERA document. ICs (groundwater restrictions in the downtown area) were originally implemented at this site in 2000, and ICs and annual inspections are required for this site under the ICMP.

SA 80 - Steam Plant 4 — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Free product recovery was discontinued in June 2010.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled DRO, NAPs, product thickenss

Current Monitoring Click to View Current Monitoring **Monitoring File:** SA80SteamPlant4_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-103	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	DRO, NAPs	
2004	DRO, NAPs	
2005	DRO	
2006	DRO	
2007	Monitoring not planned	
2008	DRO (even years only)	
2009	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-155	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

SA 80 - Steam Plant 4 | OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-157	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-158	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO
2006	Free product detected, not sampled, product thickness (monthly)
2007	Free product detected, not sampled, product thickness (monthly)
2008	Free product detected, not sampled, product thickness (monthly)
2009	Free product detected, not sampled, product thickness (monthly)
2010	DRO, product thickness (monthly)

SA 80 - Steam Plant 4 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-159	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO
2006	DRO
2007	DRO
2008	DRO
2009	DRO, NAPs
2010	DRO

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-164	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

SA 80 - Steam Plant 4 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-173	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	DRO, GRO, BTEX
2005	Free product detected, not sampled
2006	Free product detected, not sampled, product thickness (monthly)
2007	Free product detected, not sampled, product thickness (monthly)
2008	Free product detected, not sampled, product thickness (monthly)
2009	Free product detected, not sampled, product thickness (monthly)
2010	DRO, product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-801	MNA	Groundwater

1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs
2002	GRO, BTEX, DRO, RRO, NAPs
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO
2006	DRO
2007	DRO
2008	DRO
2009	DRO, NAPs
2010	DRO

SA 80 - Steam Plant 4 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
SP4-2	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
SP4-3	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	DRO, NAPs	
2004	DRO, NAPs	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO	
2009	NAPs	
2010	DRO	

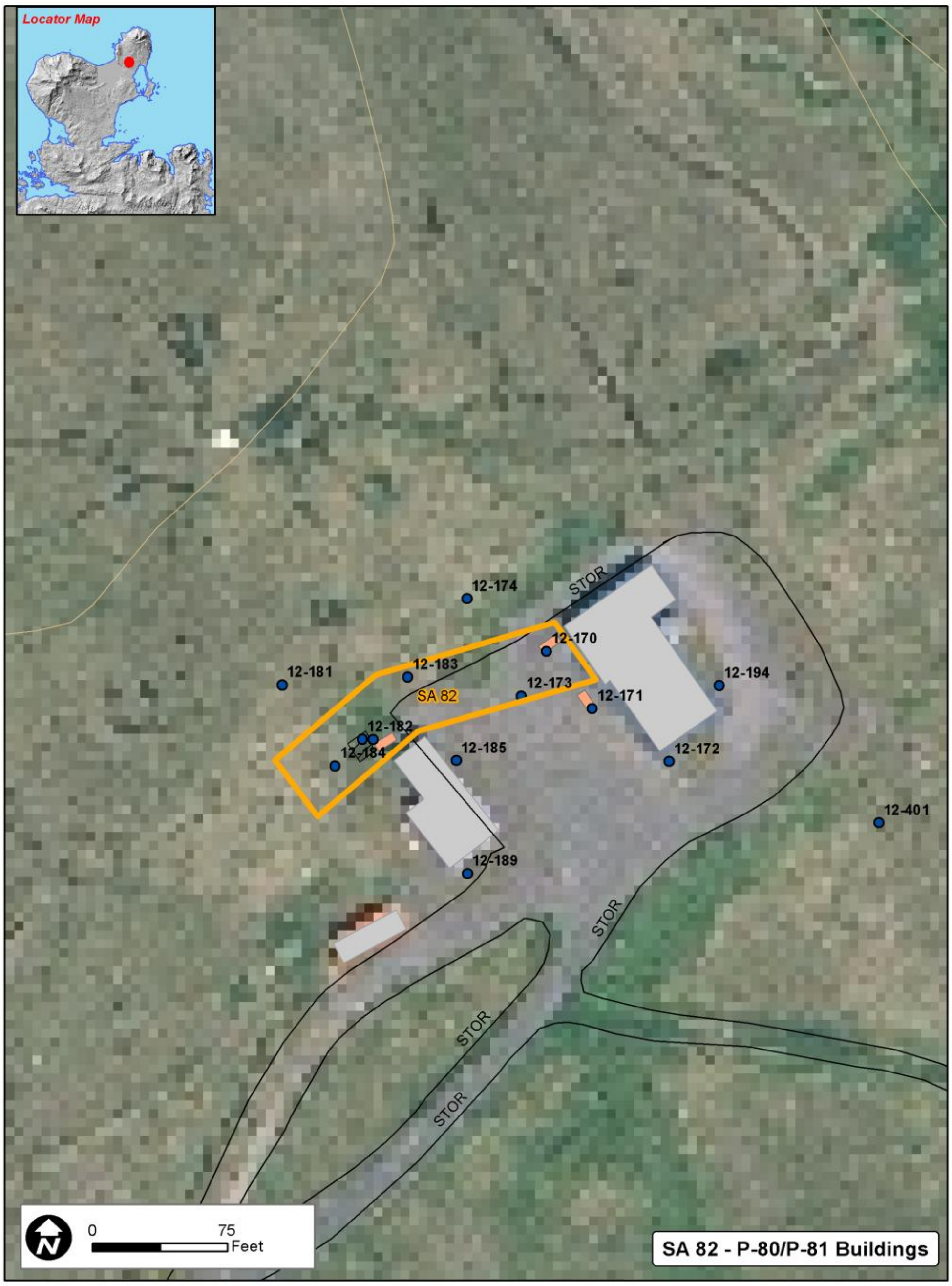
SUMMARY OF INSPECTION RESULTS:

Inspections in 2009 and 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. The 2010 IC report indicates ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 31, 34, 39, 41, 44, 52, 62, 74, 77, 84, 86, 90, 91, 121, 125, 129, 134

SA 82 - P-80/P-81 Buildings | OU A - SAERA



SA 82 - P-80/P-81 Buildings — OU A - SAERA

STATUS: Cleanup complete with IC inspections required.

BACKGROUND:

The P-80/P-81 Buildings were used by the former NSGA and are located on Stor Road, approximately 4,500 feet north of the main NSGA complex. UST 10587 and AST 10333 were located west of Building P-80 and were used to store JP-5 fuel for the heating boiler. UST 10579 was located northwest of Building P-81 and was used to store JP-5 fuel to supply the generator in Building P-81.

The natural topography of the area slopes gently at a 5 to 10 percent grade toward Clam Lagoon, approximately 1 mile to the southeast. The closest surface water body is an unnamed stream approximately 550 feet east-southeast of the site.

It is presumed that UST 10587 and AST 10333 were taken out of service when Building P-80 was abandoned. In 1991, piping believed to be part of the UST 10587 system was encountered during excavations in the area, but the UST was never found. AST 10333 was removed in August 1994. Reports that UST 10579 was removed sometime in 1991 were confirmed by the Navy; however, no report documenting the removal was found.

Fourteen soil borings and seven monitoring wells were drilled between 1996 and 1997. DRO was detected in 10 of 21 subsurface soil samples at concentrations less than or equal to the ADEC matrix cleanup level. GRO and BTEX were detected in soil, but at concentrations below the cleanup levels. DRO was detected in five of seven groundwater samples from wells on the site. GRO was not detected. Monitoring well 12-185 was damaged and subsequently abandoned in 1998. Monitoring well 12-401 was installed downgradient of the site in 1998, and DRO was detected in the sample collected in 1998. No constituents have been detected in the well in samples collected between 1999 and 2000. No petroleum-related compounds were reported in groundwater samples collected from the site at concentrations greater than their respective ADEC groundwater cleanup levels for groundwater not used as a drinking water source. Only DRO was reported in two groundwater samples (location 12-170 in 1996 and location 12-185 in 1997) at concentrations above its ADEC groundwater cleanup level for groundwater used as a drinking water source.

Free product was detected intermittently in the two wells (12-170 and 12-180) situated in the former UST locations. Passive-style skimmers were used at this site to recover product when detected at measurable quantities. Total product recovered from this site is 0.04 gallon. Free product has not been observed in any monitoring well in the vicinity of the P-80/P-81 Buildings since July 31, 1998. Since that time, the Navy has gauged the wells at this site for the presence of free product monthly, then quarterly. Because free product has not been found in any monitoring well since July 1998, the Navy believes that free product has been recovered at this site to the maximum extent practicable as required by 18 AAC 75.325(f)(1)(B).

While ADEC did not specifically concur with the cessation of the product recovery efforts at this site, ADEC has been involved and concurred with subsequent decisions made regarding this site.

SA 82 - P-80/P-81 Buildings — OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	14
Number of Pre-Rod Samples	46
Potential Contaminat Types Evaluated	Inorganics, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Geoprobe well, Monitoring well, Well

COCs AND RISKS:

SA 82 was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery.

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the additional evaluation under SAERA. This site poses no unacceptable risk to human health or the environment above target health goals, provided that ICs remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at SA 82 is not considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established no COCs for this site.

RAOs:

The OU A ROD for the petroleum site SA 82, P-80/P-81 Buildings established the following original RAO for the SA 82, P-80/P-81 Buildings:

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable

Risk to the following:

- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below Alaska DEC groundwater cleanup levels.
- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

SA 82 - P-80/P-81 Buildings — OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery.

Free product monitoring and recovery was conducted at the site from 1997 through 1998. A decision document for final remedial action for the petroleum sites with no unacceptable risk was signed May 20, 2005. The decision document identifies limited groundwater monitoring as the final remedy. Monitoring activities were implemented in 2005 via changes to the CMP.

In addition to the required limited groundwater monitoring of the final remedy, the 2005 SAERA decision document also required limited soil removal as an additional action to support the final remedy. The limited excavation was completed in July 2006. The excavation was centered around location 12-182. The excavation continued until a 12-foot-square by 6-foot-deep excavation was dug and all soil removed. Field screening during the excavation activities did not indicate elevated concentrations of petroleum hydrocarbons. Once the excavation limits were achieved, one confirmation sample was collected from the center bottom of the excavation area. DRO was detected in this soil sample at a concentration of 3,200 mg/kg, and RRO was detected at 240 mg/kg. ADEC concurred that the soil removal action was completed in accordance with the decision document.

Limited groundwater monitoring at the site ended in 2008, when concentrations of DRO in groundwater were less than ADEC groundwater cleanup levels for two consecutive sampling events. ADEC designated the site as "cleanup complete with ICs" in June 2010.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SA 82. No ICs specific to SA 82 were established in the OU A ROD or the 2005 SAERA decision document; however, ICs are included for this site in the ICMP, and annual inspections are required.

SA 82 - P-80/P-81 Buildings — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection — Click to View ICMP Table
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date September 2008 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring Click to View Current Monitoring **Monitoring File:** SA82_monCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-170	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	Monitoring not planned	
2008	DRO (even years only)	
2009	Met endpoint criteria; monitoring discontinued	

SA 82 - P-80/P-81 Buildings OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-172	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	Monitoring not planned	
2008	DRO (even years only)	
2009	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-173	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	DRO, RRO	
2009	Monitoring not planned	
2010	Monitoring not planned	

SA 82 - P-80/P-81 Buildings — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-180	Limited GW monitoring, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	Free product detected, not sampled, product thickness (monthly)	
2007	DRO, product thickness (monthly)	
2008	DRO, product thickness (monthly)	
2009	Met endpoint criteria; DRO monitoring discontinued, product thickness (monthly)	
2010	Product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-194	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	DRO, RRO	
2009	Monitoring not planned	
2010	Monitoring not planned	

SA 82 - P-80/P-81 Buildings — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-401	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO	
2004	DRO	
2005	DRO	
2006	DRO	
2007	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

The 2010 IC inspection found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. All ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 34, 41, 52, 62, 77, 84, 86, 97, 119, 120, 125, 129

SA 85 - New Baler Building OU A

SA 85 - New Baler Building OU A

STATUS: NFA per the OU A ROD.

BACKGROUND:

The New Baler Building, constructed in 1992 to replace an aging structure, housed the process of densifying and compacting solid nonhazardous waste, which was then disposed of in the Roberts municipal solid waste landfill at Adak. A number of structures existing in the site vicinity from the 1940s were destroyed or abandoned in the early 1970s. These structures included ordnance repair and maintenance shops, a lubrication and inspection building, a vehicle wash rack, a paint shop, a service station, and a grease rack. Water and sewer lines associated with these structures were constructed with wood-stave piping. About 20 abandoned and partly dismantled vehicles, some with stained soil beneath them, were located to the east, as well as waste dumpsters no longer in use.

In a geotechnical study conducted for construction of the New Baler Building, a weak to moderately strong hydrocarbon odor was detected at depths of surface to 11.5 feet bgs and from 2.5 feet to 4 feet bgs in Borings B-4 and B-7, respectively, located 40 feet to 50 feet south of what is now the building. A sheen on the groundwater was noted in Boring B-7. The site was designated SA 85. No petroleum hydrocarbon releases had been reported prior to this geotechnical drilling.

UST 42602-B was a single-wall steel tank approximately 7 feet long and 4 feet in diameter that was installed at the facility in 1991 and used to temporarily store liquid produced during compaction of garbage after it had been routed through two grease traps. The liquid was collected for about six months before sampling and discharge. According to the site assessment report, the tank was in good condition, with no observed dents, holes, surface rusting, or deformation. About 450 gallons of liquid were pumped from the tank before its removal.

Several environmental investigations were conducted at the New Baler Building in the early to mid-1990s. The first investigation, a contamination boundary assessment, followed up on the petroleum odor and staining noted during the geotechnical study of 1990.

URS conducted an LFI of the site in fall 1994 to further investigate the southern portion of the site. Based on results for field and analytical samples, it was concluded that the contamination appeared to be concentrated along an abandoned wooden sewer line at depths greater than 2 feet. In the third investigation, UST 42602-B was removed as part of a site assessment. The site assessment involved removing the tank and collecting samples from the sidewalls of the excavation. No samples were collected beneath the tank, because groundwater was in the bottom of the excavation. No surface soil samples were collected. The samples collected from the LFI and UST removal studies were analyzed for DRO and TPH.

In 1996, four groundwater monitoring wells were installed, five shallow test pits were excavated, and five piezometers were installed. Soil and groundwater samples were collected. Samples were analyzed for TPH and PAHs.

During the 1994 and 1996 field events, DRO was detected in 28 of the 34 subsurface soil samples analyzed in the laboratory. Of the 28, eight samples had DRO concentrations between 100 mg/kg and an estimated

4,300 mg/kg. The remainder of the samples had relatively low DRO concentrations (below 100 mg/kg). GRO was not detected in the four samples for which it was analyzed. RRO was analyzed for in five samples, with two detected results of 35 and 690 mg/kg.

During the 1996 groundwater sampling event, DRO was detected in the eight groundwater samples collected from six of the groundwater monitoring wells at the site. Concentrations in five of the six wells were either 200 µg/L or 300 µg/L. The DRO concentration was one order of magnitude higher, at 2,000 µg/L, in well 08-114, east of the tank and north of the former SA 85 release location. GRO was detected in samples from four of the six wells at concentrations within a close range, from 55 µg/L to 77 µg/L. These wells were west-southwest, north, east-northeast, and southeast of the New Baler Building and SA 85. The total BTEX concentration maximum was 8 µg/L. No cPAHs were detected. The total LPAH maximum concentration was 49.07 µg/L.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	27
Number of Pre-Rod Samples	49
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Excavation, Test Pit, Well

SA 85 - New Baler Building OU A

COCs AND RISKS:

The OU A ROD listed SA 85 as an NFA site.

RAOs:

No RAOs were established for SA 85.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is NFA.

SA 85 - New Baler Building — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [ ] IC Inspection
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [x] None Required

Most Recent Sampling Date October 1996 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SA 85 - New Baler Building OU A

SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in August 2010 found that the site has had no apparent activity since the last five-year review.

BIBLIOGRAPHY:

114

Environmental Restoration Site Report
Adak Island, Alaska

SA 86 - Old Happy Valley Child Care Center OU A

SA 86 - Old Happy Valley Child Care Center OU A

STATUS: NFA per the OU A ROD.

BACKGROUND:

A building was constructed on the SA 86, Old Happy Valley Child Care Center site, and was used as a gymnasium and arena in the 1950s. The building was later used as a bowling alley and then as a child care center. It burned sometime after 1987. Areas to the east and southeast of the source area have been used for gravel storage. The building was heated with fuel supplied by an AST, the former location of which is unknown. There is no record of underground fuel storage at this site. The petroleum products used at the site are unknown.

No records are available on petroleum releases at this facility. During a geotechnical investigation conducted in 1989, hydrocarbon odors were noted in the subsurface soil and a sheen was observed on the groundwater surface in exploratory borings. Samples collected in 1994 showed the presence of petroleum hydrocarbons The release mechanism is unknown, but probably includes overfilling of the former AST and other sources associated with past operations.

A limited field investigation was conducted in 1994 to assess subsurface soil and groundwater quality. Soil samples were collected at depths ranging from approximately 1 foot to 5.5 feet bgs from 16 separate test pits. Three groundwater monitoring wells were installed. Soil and groundwater samples were analyzed for TPH. Petroleum hydrocarbons were detected at concentrations that exceeded ADEC matrix levels and additional investigation was required.

In 1996, three additional monitoring wells were installed. Subsurface soil, groundwater, sediment, and surface water samples were collected. Soil samples were analyzed for TPH and lead; groundwater and surface water samples were analyzed for TPH and SVOCs; and sediment samples were analyzed for TPH, total organic carbon, SVOCs, and lead.

Analytical results for soil samples collected during the investigations indicated detected concentrations of DRO ranged from an estimated 5.1 mg/kg to an estimated 13,000 mg/kg. GRO concentrations ranged from an estimated 6.5 mg/kg to 65 mg/kg and total BTEX ranged from 0.031 mg/kg to 1.5 mg/kg.

Analytical results for groundwater collected during the investigations showed that DRO was detected in two of the five groundwater samples taken during the 1996 sampling event. All of the reported concentrations were below the ADEC matrix level. Wells 06-121 and 06-120 (crossgradient of the source area) contained DRO at concentrations of 610 µg/L and 390 µg/L. During the 1994 sampling event, DRO was detected at concentrations of 260 µg/L. from MW-86-3 in the source area and 340 µg/L from MW-86-2 south of the drainage creek. However, during the 1996 sampling event, DRO was not detected in either MW-86-3 or MW-86-2. GRO, benzene, and total BTEX were not detected in groundwater during the most recent sampling event. Two cPAHs were detected at crossgradient well 06-121, chrysene at 0.04 µg/L and benzo(a)anthracene at 0.04 µg/L. These concentrations are below the ADEC matrix levels.

SA 86 - Old Happy Valley Child Care Center — OU A

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	29
Number of Pre-Rod Samples	70
Potential Contaminat Types Evaluated	Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Sub-surface soil (> 6"), Surface water
Types of Pre-ROD Locations	Hand auger, Monitoring well, River/stream, Test Pit, Well

COCs AND RISKS:

The OU A ROD listed SA 86 as an NFA site.

RAOs:

No RAOs were established for SA 86.

SA 86 - Old Happy Valley Child Care Center OU A

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is NFA.

SA 86 - Old Happy Valley Child Care Center — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date October 1996 — **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required — **Monitoring File:** Not Applicable

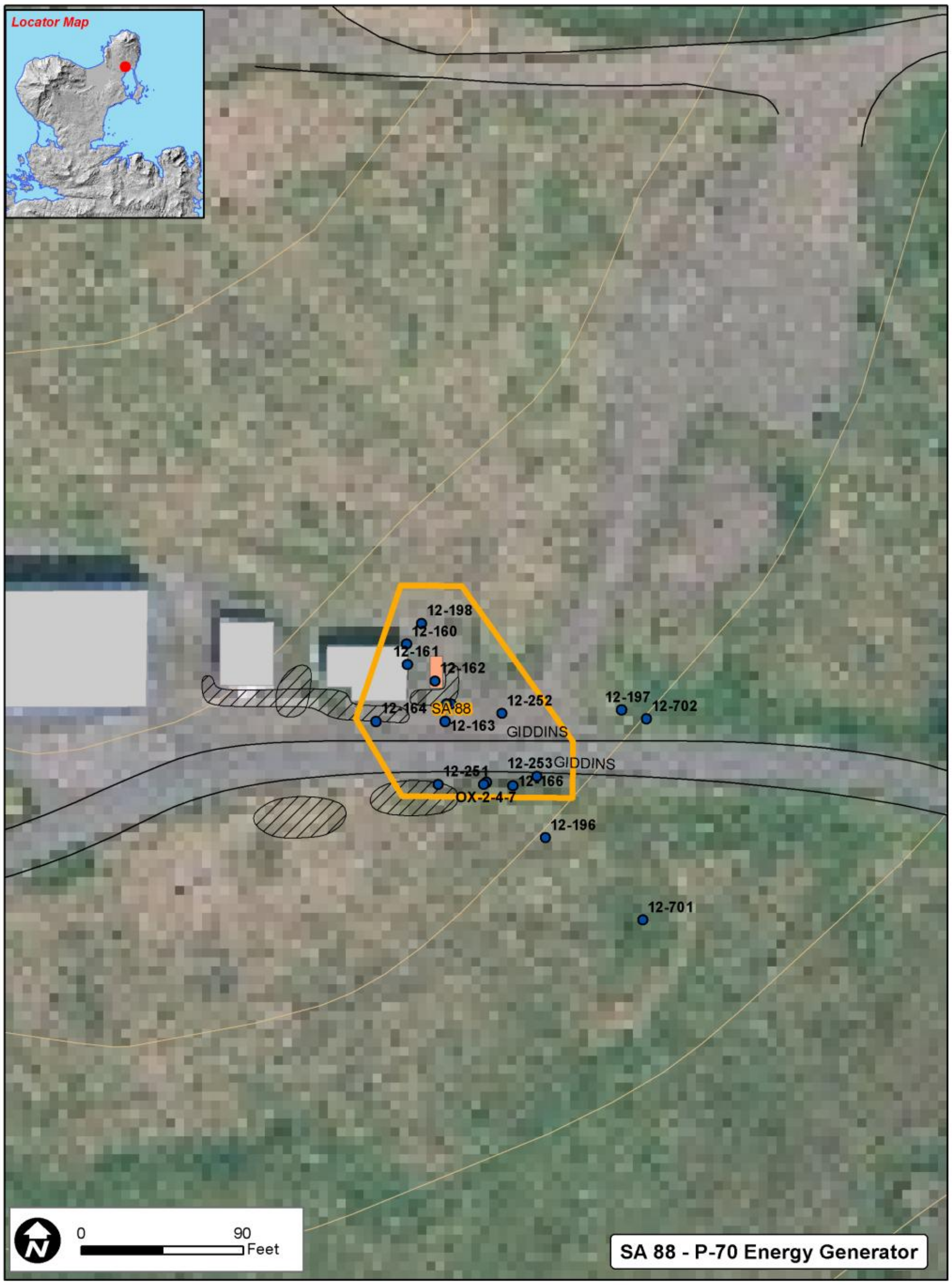
SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in August 2010 found that the site has had no apparent activity since the last five-year review.

BIBLIOGRAPHY:

84, 86, 115

SA 88 - P-70 Energy Generator OU A - SAERA



SA 88 - P-70 Energy Generator OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

SA 88 is located on the north side of Giddens Road, approximately 1 mile north of the main NSGA complex. This site was once used as a radio receiving facility. The site occupies 0.5 acre in an undeveloped portion of the NSGA. The site and surrounding area are situated at the southern base of Mount Adagdak, and slope toward Clam Lagoon. The facility is composed of three structures: Building P-70 (receiving facility), Building P-86 (storage and equipment building), and Building 10355 (energy generation plant for the facility). The P-70 Building was used for auxiliary power generation and miscellaneous storage at NSGA. UST 10578 was installed at Building P-70 in 1965 to store JP-5 for powering the generator.

The site itself is flat, having been cut into the slope and graded as a platform for the buildings. East of the site, the natural topography of the area slopes at a 10 to 25 percent grade toward Clam Lagoon, approximately 1,500 feet southeast. The closest surface water body is an unnamed creek approximately 350 feet southeast of the site.

UST 10578 had a 5,000-gallon capacity and was removed in May 1993. No records on releases from the UST are available. However, petroleum product 'flowing' from the west sidewall of the excavation was recorded at 2 feet bgs. The rate at which the product was released and the length of time the release was observed were not provided in the site assessment report. DRO was reported in all four soil samples collected from the sidewalls and base of the excavation at concentrations greater than the ADEC soil matrix cleanup level.

Thirteen soil borings, three groundwater monitoring wells, two Geoprobe wells, and three product recovery wells were installed between September 1996 and May 1997. DRO was detected in 12 of 27 soil samples collected at 18 locations at concentrations above the ADEC matrix cleanup level of 200 mg/kg. GRO and BTEX were detected in soil, but at concentrations below the cleanup levels. DRO was detected in seven of eight wells sampled in 1996 and 1997 at a maximum concentration of 12,000 µg/L; GRO was detected in two of eight wells. Several noncarcinogenic PAHs were detected in seven of eight wells sampled in 1996 and 1997. No detections of these noncarcinogenic PAHs were greater than ADEC cleanup levels. Two downgradient monitoring wells (12-701 and 12-702) were installed in 1998 for the Comprehensive Monitoring Program. DRO was detected in well 12-702 at a concentration equal to ADEC groundwater cleanup criterion in 1998. No constituents were detected in groundwater samples collected from well 12-701 between 1998 and 2000.

Free product was observed in four of 10 monitoring wells (12-162, 12-163, 12-198, and 12-252) at the P-70 Energy Generator site between 1996 and 2002. At least one passive-style skimmer was rotated between wells with measurable product thicknesses (12-162, 12-163, and 12-198) between January and December 1997. This recovery effort produced less than 5 gallons of product at the site during 1997. Approximately 26 gallons of free product was recovered at the site between January 1997 and June 2000. The Navy contends that free product has been recovered at this site to the maximum extent practicable as required by 18 AAC 75.325(f)(1)(B).

While ADEC did not specifically concur with the cessation of the product recovery efforts at this site, ADEC has been involved and concurred with subsequent decisions made regarding this site, and ADEC concurrence that product recovery endpoints had been reached in the 2005 SAERA decision document.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	16
Number of Pre-Rod Samples	51
Potential Contaminat Types Evaluated	Inorganics, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Hand auger, Monitoring well, Recovery well, Well

SA 88 - P-70 Energy Generator OU A - SAERA

COCs AND RISKS:

SA 88 was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery.

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the additional evaluation under SAERA. This site poses no unacceptable risk to human health or the environment above target health goals, provided that Ics remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at SA 88 is not considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations. The OU A ROD did not identify human health or ecological risks associated with the site.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established no COCs for this site.

RAOs:

The OU A ROD for the petroleum site SA 88, P-70 Energy Generator established the following original RAO for the SA 88, P-70 Energy Generator:

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site was free product recovery, which was performed between 1996 and 2002. The 2005 decision document specifies the final remedy as limited groundwater monitoring. This remedy was implemented during the 2005 monitoring program. A decision document for final remedial action for the petroleum sites with no unacceptable risk was signed May 20, 2005. The decision document identifies limited groundwater monitoring as the final remedy. Monitoring activities were implemented in 2005 via changes to the CMP.

In addition to the required limited groundwater monitoring of the final remedy, the 2005 SAERA decision document also required additional one-time groundwater samples from four wells at the site, along with free product measurement and removal (if found). The four additional action wells were included for regular, on-going sampling in the CMP revisions made during implementation of the final remedy. On-going product measurement and recovery also has been implemented at this site.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SA 88. No Ics specific to SA 88 were established in the OU A ROD or the 2005 SAERA decision document; however, Ics are included for this site in the ICMP, and annual inspections are required.

SA 88 - P-70 Energy Generator — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled DRO

Current Monitoring Click to View Current Monitoring **Monitoring File:** SA88P70EnergyGenerator_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-162	Limited GW monitoring, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	DRO	
2005	Free product detected, not sampled	
2006	Free product detected, not sampled, product thickness (monthly)	
2007	DRO, product thickness (monthly)	
2008	DRO, product thickness (monthly)	
2009	DRO, product thickness (monthly)	
2010	DRO, product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-163	Limited GW monitoring, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	DRO	
2005	Free product detected, not sampled	
2006	Free product detected, not sampled, product thickness (monthly)	
2007	DRO, product thickness (monthly)	
2008	Free product detected, not sampled, product thickness (monthly)	
2009	DRO, product thickness (monthly)	
2010	DRO, product thickness (monthly)	

SA 88 - P-70 Energy Generator — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-197	Limited GW monitoring, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	DRO
2005	Free product detected, not sampled
2006	Free product detected, not sampled, product thickness (monthly)
2007	DRO, product thickness (monthly)
2008	DRO, product thickness (monthly)
2009	DRO, product thickness (monthly)
2010	DRO, product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-198	Limited GW monitoring, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	DRO
2005	Free product detected, not sampled
2006	Free product detected, not sampled, product thickness (monthly)
2007	Free product detected, not sampled, product thickness (monthly)
2008	Free product detected, not sampled, product thickness (monthly)
2009	DRO, product thickness (monthly)
2010	DRO, product thickness (monthly)

SA 88 - P-70 Energy Generator — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-252	Limited GW monitoring, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	DRO	
2005	Free product detected, not sampled	
2006	Free product detected, not sampled, product thickness (monthly)	
2007	DRO, product thickness (monthly)	
2008	Free product detected, not sampled, product thickness (monthly)	
2009	DRO, product thickness (monthly)	
2010	DRO, product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-253	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO	
2009	DRO	
2010	DRO	

SA 88 - P-70 Energy Generator — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-701	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO	
2004	DRO	
2005	DRO	
2006	DRO	
2007	DRO	
2008	DRO	
2009	DRO	
2010	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-702	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO	
2007	DRO	
2008	DRO	
2009	DRO	
2010	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

The IC inspection in 2008 revealed unauthorized excavation at the site related to copper salvaging operations. Transformer oil was noted on the ground. Field testing of the oil did not indicate the presence of PCBs in the transformer oil. The inspection in September 2009 found that the site has had been restored.

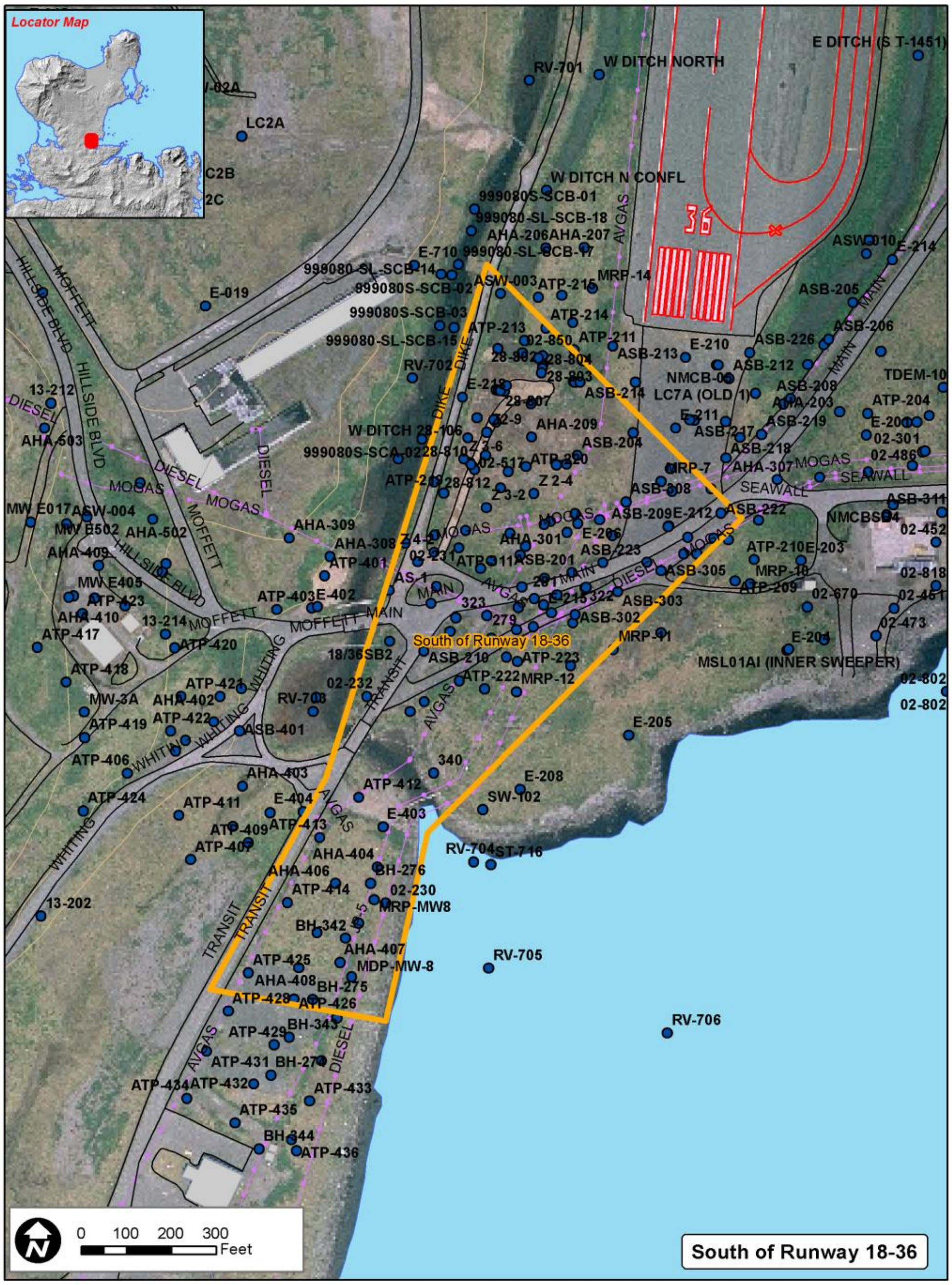
The 2010 IC inspection reported no indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 34, 41, 52, 62, 77, 84, 86, 90, 91, 113, 121, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

South of Runway 18-36 | **OU A - SAERA**



South of Runway 18-36 OU A - SAERA

STATUS: Monitoring of groundwater, surface water, and sediment, passive free product recovery, IC inspections are required.

BACKGROUND:

The South of Runway 18-36 Area consists of the lowland area surrounding the southern portion of Runway 18-36. It extends from the East Canal of the airport ditch system on the east to South Sweeper Creek on the west and Sweeper Cove to the south. To the east, this site adjoins another large petroleum-release site, the NMCB Building T-1416 Expanded Area. The primary physical features on the site include the southern portion of Runway 18-36, Main Road, the northern end of Transit Road south to the Transit Road Bridge, and the southern portion of the West Canal and the Crossover Canal of the airport ditch system. The canals that constitute the airport ditch system are engineered structures used to divert surface water from the vicinity of Runway 18-36. Because the site is within the low-fly zone established for the airfield, no buildings are located within the site boundaries.

Topography at the South of Runway 18-36 area is flat, low-lying land adjacent to and south of the Runway 18-36 area extending to Sweeper Cove. Elevations in this area are generally less than 15 feet above MLLW. The dike situated on the eastern shore of South Sweeper Creek constitutes the highest topographic point on the site.

Early in 1989, several leaks were discovered in underground pipelines that traverse the hillsides in the vicinity of Tank Farm A. These leaks typically occurred in abandoned WWII-era pipelines still connected to the active fuel distribution system. Two documented leaks within Tank A Farm occurred in abandoned branch fuel lines that were not properly isolated. Fuel was released from these and other undocumented sources within Tank Farm A in quantities sufficient to migrate downslope and produce the petroleum impacts observable along the western shoreline of lower South Sweeper Creek. In September 1990, an abandoned fuel line located near the southeast corner of Runway 18-36 was uncovered during installation of a new fuel line adjacent to Main Road. The abandoned fuel line reportedly was the source of a subsurface fuel release, and residual product was observed in the excavated trench.

Numerous investigations have been performed at the South of Runway 18-36 area and the surrounding vicinity. These investigations include a 1989 phased site investigation to evaluate the extent of the petroleum fuel release in the vicinity of Tank Farm A, a 1994 release investigation to supplement the 1989 investigation, a 1994 release investigation to evaluate the extent of fuels released in the vicinity of the Main Road (6-inch, JP-5) Pipeline, a 1996 release investigation work plan prepared to summarize site conditions, a 1999 site summary report, and a 2001 RI.

During these investigations, numerous monitoring wells were installed and many soil, groundwater, surface water, and sediment samples were collected. These investigations identified DRO and benzene in soil and groundwater above ADEC cleanup criteria, as well as the presence of free product floating on the surface of the groundwater. In addition, it was concluded that it was highly likely that petroleum hydrocarbon contamination entered South Sweeper Creek and potentially South Sweeper Cove. During the release investigation conducted at Tank Farm A in 1993, three distinct dissolved petroleum hydrocarbon plumes were identified in the South of Runway area: (1) along the eastern shore of South Sweeper Creek, (2) west of South Sweeper Creek near wells E-401 and LC-5A, and (3) from well E-210 into the NMCB area.

Cleanup activities that have been implemented at the South of Runway 18-36 Area include soil capping, sediment removal, replacement of crossover canal with metal culverts and contaminated soil excavation, installation of a product interception device, and pipeline cleaning and closures. In August 1998, petroleum aesthetic corrective action work was completed in the South of Runway 18-36 Area. Corrective action activities included capping 270 lineal feet of stained soil within the West Canal south of the Crossover Canal and removing a section of wooden pipeline. Removal, treatment, and disposal of PCB-contaminated sediment from South Sweeper Creek were completed from April to August 1999. Airport ditch culvert installation activities occurred from May to September 2001 to reduce the potential for contamination to seep into the airport ditch drainage system. The activities included installing two metal culverts north of the west ditch portion of Crossover Canal from the existing culverts in the South of Runway 18-36 area to the south end of the West Canal. Approximately 70 cubic yards of petroleum-contaminated soil on the south bank of the Crossover Canal were removed for treatment and disposal. During August 2001, a product interception device was installed along the bank of South Sweeper Creek to prevent release of petroleum into the creek by eliminating an observed seep. This product interception device was installed adjacent to and east from the Transit Road Bridge. During June 2003, the cleaning and closure of three pipelines (10-inch avgas, 8-inch mogas, and 4-inch mogas pipelines) that cross the South of Runway 18-36 Area was completed.

Monitoring wells within the vicinity of the South of Runway 18-36 area have been gauged periodically for the presence of free product since June 1997. Free product has been detected in several wells at least once.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	165
Number of Pre-Rod Samples	440
Potential Contaminat Types Evaluated	Biological, Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Sub-surface soil (> 6"), Surface water, Tissue
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Direct Push/Geoprobe, Geoprobe well, Ground surface, Hand auger, Intertidal, Monitoring well, Ocean, open water (not bay), Test Pit, Well

COCs AND RISKS:

The South of Runway 18-36 Area was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery. The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

<u>Groundwater</u>

- Benzene

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2005 as part of the follow-on evaluation under SAERA. Results of this risk assessment identified ecological hazard levels above target health goals. Human health risk levels were found to be below target health goals, provided that Ics remain in effect. A decision document for final remedial action for the South of Runway 18-36 Area was finalized in 2006.

The ADEC Method Four cleanup levels [18 AAC 75.340(a)(4)], which are based on site-specific risk assessments, were used to establish cleanup levels for the site. However, the risk assessment for this site established that the existing concentrations in soil do not pose a risk to humans or the environment above target health goals. Therefore, soil concentrations remaining at the site meet cleanup level requirements because they do not represent a health risk for the site-specific population. Groundwater cleanup levels are based on 10 times the tabulated groundwater cleanup levels [18 AAC 75.345(b)(1), Table C], because groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Alaska state regulations do not establish chemical-specific cleanup levels for sediment. Therefore, sediment cleanup levels were established based on the results of the ecological risk assessment. Site-specific risk-based cleanup levels were calculated for those chemicals that could potentially pose an unacceptable risk to ecological receptors due to exposure to sediment in South Sweeper Creek. These risk-based cleanup levels are additional cleanup levels for surface water, and do not replace the TAqH and TAH criteria specified in 18 AAC Chapter 70.

The 2006 Final Decision Document for the South of Runway 18-36 Area established the following cleanup levels based on ADEC regulatory criteria or calculated risk-based levels for the following COCs:

<u>Groundwater</u>

- DRO

<u>Sediment</u>

- 2-Methylnaphthalene
- DRO
- Phenanthrene

Surface Water

- DRO
- GRO
- Indeno(1,2,3-cd)pyrene
- TAH
- TAqH

RAOs:

The OU A ROD for the petroleum site South of Runway 18-36 established the following original RAO for South of Runway 18-36 (Table 7-4 of the OU A ROD):

- Reduce volume of petroleum free product.

The RAOs were revised in the 2006 Final Decision Document for South of Runway 18-36 to the following:

- Prevent ecological exposure to petroleum hydrocarbons in surface water and sediment that would result in adverse health effects to ecological receptors or an exceedance of the Alaska surface water quality standards.
- Prevent the migration of petroleum hydrocarbons to surface water that would result in adverse health effects to ecological receptors and/or an exceedance of the Alaska surface water quality standards.
- Prevent the migration of petroleum hydrocarbons to sediments that would result in adverse health effects to ecological receptors.
- Protect human health by minimizing exposure to free-phase product.
- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the Alaska DEC groundwater cleanup levels established for groundwater not currently used for, or not reasonably expected to be used for drinking water (in regards to human health)

REMEDY IMPLEMENTATION:

Free product recovery was specified by the OU A ROD as the interim remedy for the South of Runway 18-36 Area. This interim remedy was implemented from June 1997 through July 2005 using a combination of passive and automatic skimming devices. Approximately 215 gallons of free product were recovered during this time period. As of July 2005, free product recovery at the South of Runway 18-36 area met the practicable endpoint established for the shut-down of product recovery as specified in the OU A ROD. ADEC approved the interim remedial action free product closure report for this site in January 2006.

The 2006 decision document prepared under SAERA specified ICs, passive free product recovery and containment, MNA for groundwater, and natural recovery for surface water and sediment as the selected remedies for South of Runway 18-36. ICs required by the 2006 decision document were already in place when the decision document was executed. The CMP was modified as needed to incorporate the groundwater MNA and sediment/surface water natural recovery components of the final remedy.

As part of implementing the passive free product recovery and containment component of the final remedy, a 400-foot-long recovery trench was installed between August 17 and September 9, 2006. The recovery trench provides a zone of increased permeability to enhance collection of free product through employment of passive collection equipment. Eight recovery sumps/wells were installed with the trench. These sumps were installed every 50 feet as collection points for the fuel-skimming equipment installed at the site. In addition to the recovery sumps, seven new recovery/monitor wells were installed. These "RW" wells were installed to enhance the existing well system.

Also, as part of implementing the product recovery component of the final remedy, free product recovery devices were installed in wells at the site and within the product recovery trench sumps. The equipment installed included pneumatically-operated passive skimmers at the eight sump locations and other locations with greater than 0.5 foot of measurable product thickness, passive canister skimmers at specific locations where free product thickness was measured between 0.1 and 0.5 foot, and sorbent socks where fuel was detected at a thickness less than 0.1 foot. Product recovery has been on-going since equipment installation.

Sorbent booms also are used for free product recovery. Five sorbent booms are located in Sweeper Creek/West Canal: one around the West Canal Pump station, three in Sweeper Creek, and one in the existing product interception device. Six sorbent booms are located in the East Canal. The purpose of the floating sorbent booms is to prevent the migration of contaminants and eliminate petroleum sheen in adjacent surface waters. The booms are routinely inspected and replaced when required.

South of Runway 18-36 | OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

MNA of groundwater, surface water protection of Sweeper Creek using an interceptor trench and oil absorbent booms, and monthly IC inspections.

Monitoring Types:

- ☑ Groundwater Monitoring
- ☐ Landfill Inspection
- ☑ Surface Water Monitoring
- ☑ IC Inspection — Click to View ICMP Table
- ☑ Sediment Monitoring
- ☑ Remediation System Monitoring and Maintenance
- ☐ Tissue Monitoring
- ☐ None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater, surface water, and sediment

Current Analytes Sampled DRO, GRO, BTEX, TAH, TAqH, NAPs, visual inspections, product thickness

Current Monitoring Click to View Current Monitoring **Monitoring File:** SouthofRunway1836Area_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-231	MNA, SW protection, PT	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	GRO, BTEX, DRO, DRO fractions, RRO, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX, visual inspection	
2006	DRO, GRO, BTEX, TAH, TAqH, product thickness (monthly), visual inspection	
2007	DRO, GRO, BTEX, TAH, TAqH, product thickness (monthly), visual inspection	
2008	DRO, GRO, BTEX, TAH, TAqH, product thickness (monthly), visual inspection	
2009	DRO, GRO, BTEX, TAH, TAqH, NAPs, product thickness (monthly), visual inspection	
2010	DRO, BTEX, TAH, TAqH, product thickness (monthly), visual inspection	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-232	MNA, SW protection, PT	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	DRO, DRO fractions, RRO, NAPs	
2003	DRO	
2004	DRO	
2005	DRO, visual inspection	
2006	DRO, GRO, BTEX, TAH, TAqH, visual inspection	
2007	DRO, GRO, BTEX, TAH, TAqH, visual inspection	
2008	DRO, GRO, BTEX ,TAH, TAqH, visual inspection	
2009	DRO, GRO, NAPs, visual inspection	
2010	DRO, BTEX, TAH, TAqH, visual inspection	

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
02-518	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
18/36-01	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
18/36-02	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
18/36-03	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	DRO, GRO, BTEX, TAH, TAqH	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
18/36-05	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO	
2007	DRO	
2008	Product thickness	
2009	DRO (odd years only), NAPs	
2010	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
28-804	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Well cap stuck, product thickness not measured	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
28-808	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Well cap stuck, product thickness not measured	
2008	Not located in field, presumed destroyed, monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
28-812	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Product thickness	

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
852	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: Monitoring of this location for this site is not planned Sediment: DRO, 2-methylnaphthalene, phenanthrene

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AS-1	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Free product detected, not sampled, product thickness (monthly)
2007	DRO, GRO, BTEX, TAH, TAqH, product thickness (monthly), visual inspection
2008	DRO, GRO, BTEX, TAH, TAqH, product thickness (monthly), visual inspection
2009	DRO, GRO, BTEX, TAH, TAqH, NAPS, product thickness (monthly), visual inspection
2010	DRO, BTEX, TAH, TAqH, visual inspection

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-206	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO
2007	DRO
2008	DRO
2009	DRO, NAPs
2010	Met endpoint criteria; monitoring discontinued

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-207	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

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LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-208	MNA, SW protection, PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	NAPs	
2003	DRO	
2004	DRO	
2005	DRO	
2006	DRO, GRO, BTEX, TAH, TAqH, visual inspection	
2007	DRO, GRO, BTEX, TAH, TAqH, visual inspection (odd years only)	
2008	Product thickness	
2009	DRO, GRO, BTEX, TAH, TAqH, NAPs, visual inspection	
2010	Monitoring not planned	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-209	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-213	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-215	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-216	SW protection, PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	Monitoring not planned	
2002	DRO, DRO fractions, NAPs	
2003	DRO	
2004	Free product detected, not sampled	
2005	DRO	
2006	Product thickness (monthly), visual inspection	
2007	Product thickness (monthly), visual inspection	
2008	Product thickness (monthly), visual inspection	
2009	Product thickness (monthly), visual inspection	
2010	Product thickness (monthly), visual inspection	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-217	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	Product thickness (monthly), visual inspection	
2007	Product thickness (monthly), visual inspection	
2008	Product thickness (monthly), visual inspection	
2009	Product thickness (monthly), visual inspection	
2010	Product thickness (monthly), visual inspection	

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
E-218	MNA, SW protection, PT	Groundwater
1999	DRO, GRO, BTEX (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX (quarterly - 2 rounds)	
2001	Monitoring not planned	
2002	NAPs	
2003	DRO	
2004	DRO	
2005	DRO, visual inspection	
2006	DRO, GRO, BTEX, TAH, TAqH, visual inspection	
2007	DRO, GRO, BTEX, TAH, TAqH, visual inspection	
2008	DRO, GRO, BTEX, TAH, TAqH, visual inspection	
2009	DRO, GRO (odd years only), NAPs, visual inspection	
2010	DRO, BTEX, TAH, TAqH, visual inspection	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
LC6A	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MRP-12	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	DRO, RRO, NAPs	
2003	DRO	
2004	DRO	
2005	DRO	
2006	DRO	
2007	DRO (odd years only)	
2008	Product thickness	
2009	DRO, NAPs	
2010	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-02	Natural recovery	Surface water
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	DRO, TAH, TAqH	
2008	Monitoring discontinued after 2007 one-time sample	

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-01	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-02	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-03	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-04	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-05	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

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LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-06	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

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LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-07	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NSWSD-08	Natural Recovery	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-18/36-01	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	DRO, BTEX, TAH, TAqH, product thickness (monthly)

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-18/36-02	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-18/36-03	MNA, SW protection, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, TAH, TAqH, visual inspection, product thickness (monthly)	
2007	Field error, not sampled, product thickness (monthly)	
2008	DRO, GRO, BTEX, TAH, TAqH, product thickness (monthly), visual inspection	
2009	DRO, GRO, BTEX, TAH, TAqH, NAPs, visual inspection	
2010	DRO, BTEX, TAH, TAqH, visual inspection	

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-18/36-04	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-18/36-05	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-18/36-06	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-18/36-07	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

South of Runway 18-36 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
Z2-4	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
Z3-2	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

South of Runway 18-36 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
Z3-6	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness
2007	Monitoring not planned
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
Z4-2	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

SUMMARY OF INSPECTION RESULTS:

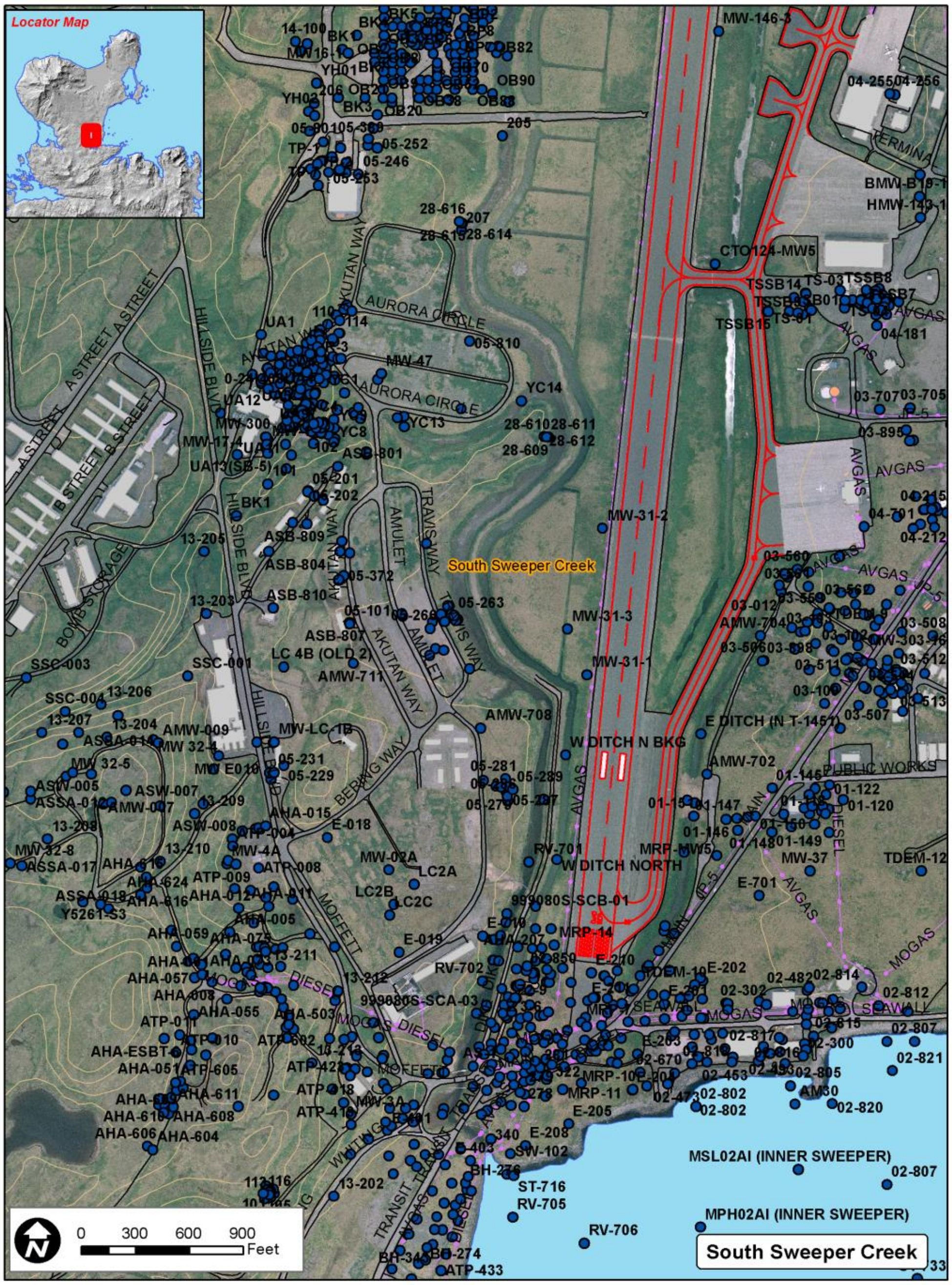
The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

29, 34, 41, 46, 52, 62, 77, 79, 84, 86, 90, 91, 96, 111, 112, 122, 125, 129, 130, 134

Environmental Restoration Site Report
Adak Island, Alaska

South Sweeper Creek OU A



South Sweeper Creek — OU A

STATUS: NFA

BACKGROUND:

The principal surface drainage feature in the Sweeper Cove drainage basin is South Sweeper Creek. South Sweeper Creek is west of the downtown core area and Runway 18-36. South Sweeper Creek is fed by Yakutat Creek, Airport Ditch, and other small tributaries. Not all surface water within the drainage basin passes through South Sweeper Creek; small streams on the southern portion of the drainage basin discharge directly into Sweeper Cove. In addition, water collected in the runway canals (diversionary structures that provide drainage and dewatering for the airport) is discharged to lower South Sweeper Creek via a pair of pumps.

The lower reach of South Sweeper Creek is up to 120 feet wide. Sediments in the lower reach are sand- and silt-sized, indicating that this area is depositional (unlike the tributaries, which have faster flow and primarily sand and gravel in their creek bottoms). Benthic invertebrates and fish prefer rocky/gravelly creek bottoms and are unlikely to live in fine-grain substrate. Sediments measured in the lower reach were 3.5 to 5 feet thick, which is thicker than sediment measured upstream.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	71
Number of Pre-Rod Samples	118
Potential Contaminat Types Evaluated	Biological, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Marine sediment, Sediment , Sub-surface soil (> 6"), Surface water
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Direct Push/Geoprobe, Geoprobe well, Hand auger, Monitoring well, River/stream, Test Pit, Well

South Sweeper Creek OU A

COCs AND RISKS:

The following COCs were identified in the OU A ROD because of exceedances above action levels based on risk-based levels (Table 7-3 of the OU A ROD):

Freshwater Sediment

- Aroclor 1260

Tissue

- Cadmium
- Chromium
- Lead

In the OU A ROD (Table 7-3), the following action levels were exceeded: PCB 1 mg/kg (freshwater), and lead 0.064 mg/kg, cadmium 0.042 mg/kg, and chromium 0.26 mg/kg (in shellfish). The cleanup level of PCB (the main chemical of concern) is risk based, representing the threshold above which adverse effects to benthic organisms are apparent. Sediment samples were collected from South Sweeper Creek in 1995 during the PSEs for SWMUs 16 and 17, in 1996 for the RI/FS, and in 1998 for the supplemental risk evaluation. Contaminants in creek sediments do not pose a significant human health risk. Although the total risks of consumption of fish (Dolly Varden) for the subsistence fisher scenario, were risk 2 E-04 with Aroclor 1260 as the main risk driver (Table 6-4 and Table 6-5 of the OU A ROD), it was estimated in the OU A ROD that fish resources would be depleted within 2-4 years. Ecological risks of sediment exposures were driven by PCB hazard quotients exceeding 1. Aquatic exposures to lead and cadmium were also determined to have significant potential to pose ecological risks with hazard quotients exceeding 1 (Table 6-7 of the OU A ROD). RAOs were developed in the RI/FS for protection of ecological receptors from possible adverse effects of PCBs in sediments indicated by the elevated hazard quotient for Aroclor 1260. The RAO is includes of cadmium and lead because they are colocated with PCBs. Reduction of PCB concentrations in sediment by removal was also intended to reduce cadmium and lead concentrations, and therefore reduce the chemical concentrations in aquatic biota.

RAOs:

The OU A ROD for the CERCLA site South Sweeper Creek established the following RAOs for South Sweeper Creek (Table 7-3 and pg. 10-13 of the OU A ROD):

- Allow natural recovery processes to reduce chemical concentration in prey tissues to below acceptable levels over time (Table 7-3) of the OUA ROD.
- To protect benthic infauna from contacting and ingesting COC-affected sediments. The chemical of concern for protection of benthic invertebrates is total PCBS, and the cleanup is 1 mg/kg (dry weight). This cleanup level is risk based and represents a threshold above which adverse effects to benthic organisms are apparent (pg. 10-13, and Table 7-3 of the OUA ROD).

South Sweeper Creek OU A

REMEDY IMPLEMENTATION:

The selected remedy for South Sweeper Creek was removal and treatment of sediment. It was concluded that sediment removal (a variation of Alternative 4) was the most effective strategy for protecting human health and the environment at South Sweeper Creek. To achieve the PCB cleanup level of 1 mg/kg, an estimated 3,900 cubic yards of sediments from the affected area were identified to be removed, treated, and disposed of. The maximum estimated dredge depth was 2 feet, which was approximated for determining costs; the depth could be shallower or deeper based on observed conditions.

The selected action for Sweeper Creek was conducted in 1999 with the approval of the regulatory agencies. Confirmation samples were collected from the excavation for PCB analysis by field test kits; however, the closure report does not include tabulated post-excavation results. The excavated sediments were replaced with clean fill material to restore the creek bed to its original hydraulic condition. The excavated sediments were treated using low-temperature thermal desorption to reduce DRO levels to below 100 mg/kg and RRO levels to below 2,000 mg/kg to meet Roberts Landfill requirements (less than 10 mg/kg PCBs) for recycling as daily cover.

No ICs or long-term monitoring are required, because remedial actions for South Sweeper Creek have met the remedial goals. All ROD-required actions are completed.

South Sweeper Creek — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [ ] IC Inspection
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [x] None Required

Most Recent Sampling Date June 1999 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

South Sweeper Creek OU A

SUMMARY OF INSPECTION RESULTS:

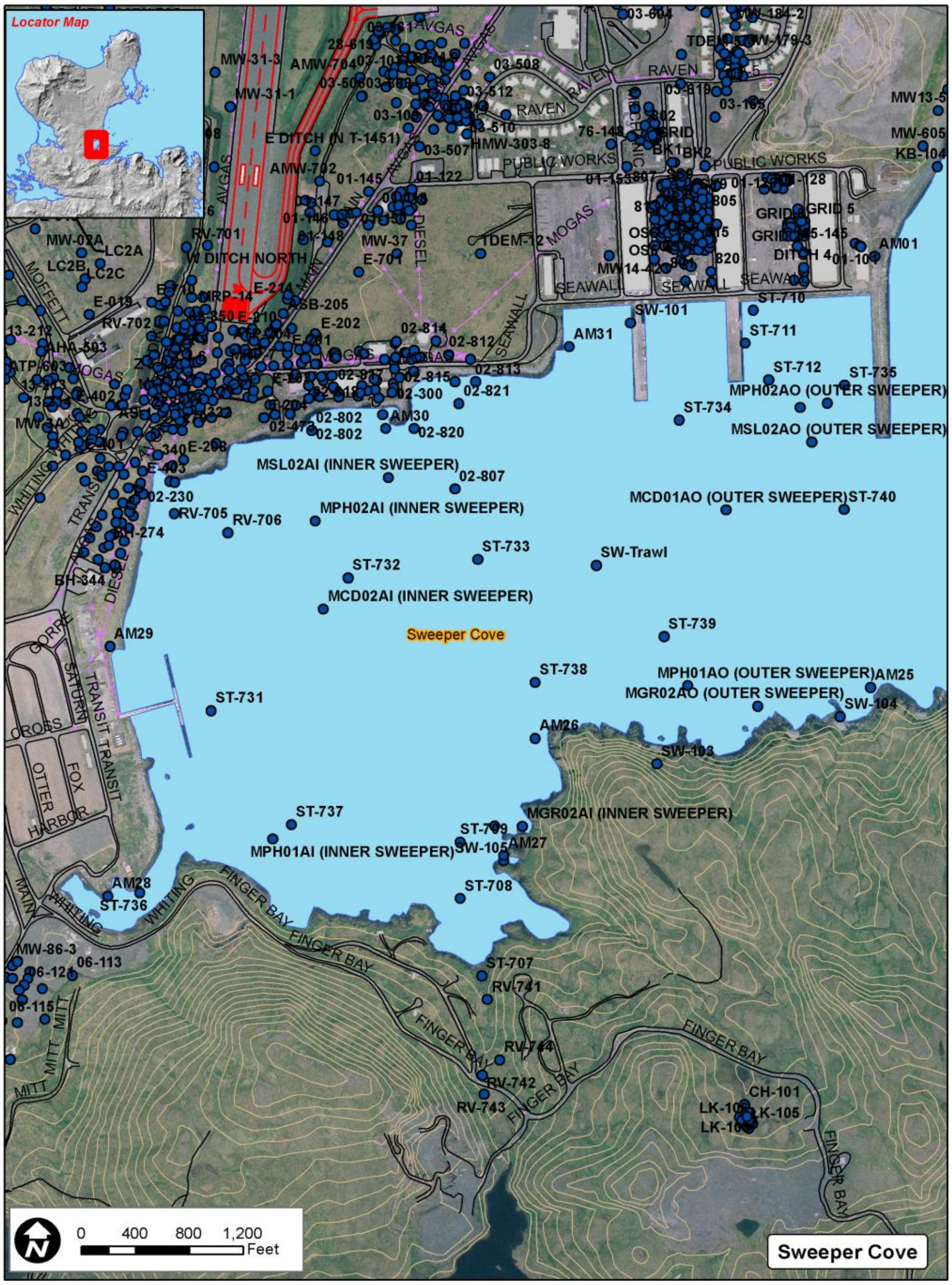
The August 2010 site inspection conducted for the five-year review noted that booms were present for sheen control. No land use changes were observed.

BIBLIOGRAPHY:

43, 62, 65, 84, 86, 129

Environmental Restoration Site Report
Adak Island, Alaska

Sweeper Cove — OU A



Environmental Restoration Site Report
Adak Island, Alaska

Sweeper Cove — OU A

STATUS: Tissue monitoring and IC inspections.

BACKGROUND:

Sweeper Cove is the most actively used water body at Adak, because it is adjacent to the main industrial portion of the downtown area.

Sweeper Cove is an estuary with a surface area of approximately 450 acres and receives drainage from approximately 4,511 terrestrial acres. The western portion of Sweeper Cove includes a shallow inlet that was developed into a small boat harbor. The northern shoreline has been altered by construction activities begun by the military in 1942. South Sweeper Creek and Mitt Creek are the primary drainages into Sweeper Cove.

The shoreline geology includes natural depositional areas of sands where some streams discharge into Sweeper Cove shorelines, exposed bedrock found on the southern shoreline of Sweeper Cove, and boulder riprap bulkheads constructed during the military development of the northern shoreline. The subtidal region is almost entirely sand, with an increasing percentage of fine material as the distance from shore increases.

Because Sweeper Cove has received the drainage from a majority of the developed area on Adak, the potential for contaminants to deposit in Sweeper Cove has been a concern. As part of the RI, samples of sediment, surface water, marine worm tissue, blue mussel tissue, and bottom fish tissue were collected in 1996 and analyzed.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	38
Number of Pre-Rod Samples	77
Potential Contaminat Types Evaluated	Biological, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Marine sediment, Marine water, Sediment , Tissue
Types of Pre-ROD Locations	Intertidal, River/stream, Subtidal

COCs AND RISKS:

The following fish and shellfish COC was identified in the OU A ROD because of exceedance above action levels based on risk-based levels (Table 7-3 of the OU A ROD):

Fish and Shellfish

- Aroclor 1260

In the OU A ROD action levels exceeded for Aroclor 1260 were 0.0065 mg/kg for fish and 0.031 mg/kg for shellfish (Table 7-3). According to the risk assessment, the cancer risk to the recreational user was 1E-05, and the cancer and noncancer risks to the subsistence fisher were 1E-03 and an HI of 10, respectively. Risk drivers causing cancer risks for the recreational user were Aroclor 1260 and arsenic in rock sole. Risk drivers causing cancer risks for the subsistence fisher were Aroclor 1260 and arsenic in rock sole and blue mussel. Risk drivers causing the noncancer risk for subsistence fishers were antimony, arsenic, and cadmium in rock sole (Tables 6-4 and 6-5 of the OU A ROD). The risk assessment also concluded that there were significant ecological risks to benthic invertebrates (HIs between 10 and 100), based on sediment quality values and sediment toxicity test exceedances. Primary ecological risk drivers were PAHs. The cleanup levels for total PCBs are 0.0065 mg/kg and 0.031 mg/kg for ingestion of fish and shellfish, respectively. These cleanup levels are risk based concentrations and were derived using exposure parameters in the OU A ROD for subsistence fishers with a carcinogenic risk threshold of 1 E-05.

RAOs:

The OU A ROD for the CERCLA site Sweeper Cove established the following RAOs for Sweeper Cove (Table 7-3 and pg. 10-4 of the OU A ROD):

- Protection of subsistence fishers from ingestion of fish and shellfish containing chemicals that present a cancer risk in excess of 1 E-05 and a noncancer hazard index in excess of 1.0.

REMEDY IMPLEMENTATION:

The selected remedy for Sweeper Cove is ICs, including a fish consumption advisory, comprehensive monitoring of blue mussel and rock sole tissue, and public education.

ICs in Sweeper Creek were implemented following execution of the ROD in April 2000.

The Navy has conducted marine tissue monitoring in Sweeper Cove since 1999. Initially, this monitoring was conducted annually in accordance with the OU A ROD. In 2003, the five-year marine tissue monitoring program required by the OU A ROD was completed. The 2003 technical memorandum for marine monitoring recommended continued sampling for rock sole and blue mussel from Sweeper Cove at a frequency of every other year through the next five-year review period to evaluate the changes in total PCB concentrations. Therefore, the Navy has conducted marine tissue monitoring at Sweeper Cove every other year from 2004 through 2010.

Sweeper Cove **OU A**

Blue mussel and rock sole tissue samples are collected from Sweeper Cove to document the temporal change in PCB concentrations in mussels and fish in Sweeper Cove and to determine the date for rescinding ICs advising subsistence and commercial seafood harvesters of the potential risk associated with consumption of certain species of fish and shellfish from Sweeper Cove. Marine tissue samples have been analyzed for PCB congeners, lipid analysis, and moisture content.

Environmental Restoration Site Report
Adak Island, Alaska

Sweeper Cove OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [x] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date June 2009 **Most Recent Inspection Date:** August 2010

Current Media Sampled Tissue

Current Analytes Sampled PCBs, lipids

Current Monitoring Click to View Current Monitoring **Monitoring File:** SweeperCove_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
All Locations	Blue mussel & rock sole LTM	Marine tissue
1999	PCB congeners, lipid analysis, moisture content	
2000	PCB congeners, lipid analysis, moisture content	
2001	PCB congeners, lipid analysis, moisture content	
2002	PCB congeners, lipid analysis, moisture content	
2003	PCB congeners, lipid analysis, moisture content	
2004	Monitoring not planned	
2005	PCB congeners, lipid analysis, moisture content	
2006	Monitoring not planned	
2007	PCB congeners, lipid analysis, moisture content	
2008	Monitoring not planned	
2009	PCB congeners, lipid analysis, moisture content	
2010	Monitoring not planned	

SUMMARY OF INSPECTION RESULTS:

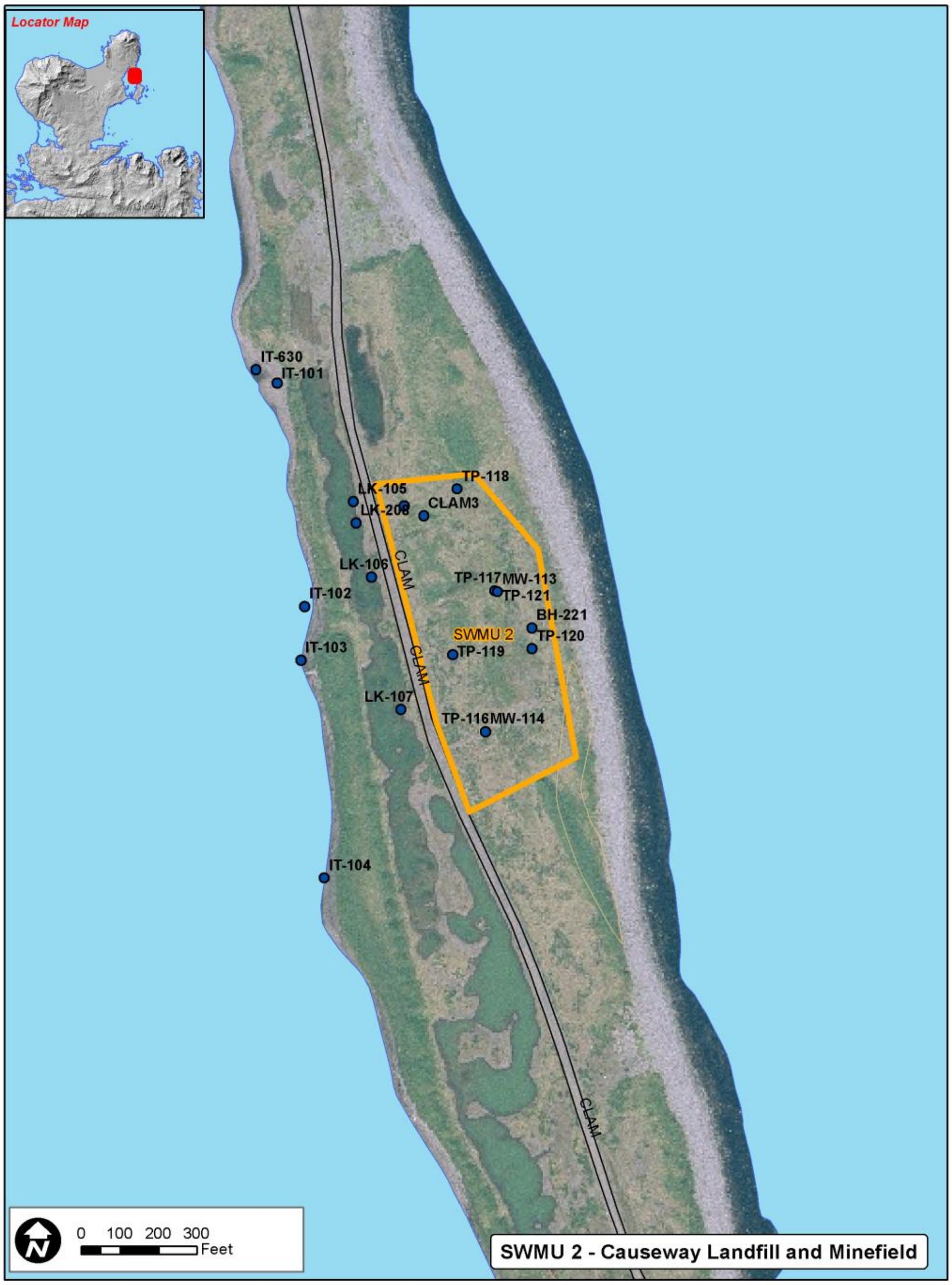
The recommendations from the 2005, 2007, and 2009 technical memoranda are for continuation of the current fish consumption advisory for rock sole in Sweeper Cove. The status of the consumption advisory will be assessed after the next sampling round scheduled for 2011.

A marine monitoring fact sheet was distributed to island residents in spring 2010 that described the results of the 2009 monitoring of blue mussels and rock sole in Sweeper Cove, including the fish advisory.

BIBLIOGRAPHY:

62, 63, 84, 86, 113, 125, 129

SWMU 2 - Causeway Landfill and Minefield OU A



SWMU 2 - Causeway Landfill and Minefield OU A

STATUS: IC and landfill inspections.

BACKGROUND:

SWMU 2, the Causeway Landfill, is located on the eastern side of Clam Road on a narrow strip of land separating Clam Lagoon from Sitkin Sound. The landfill is approximately 2 to 3 acres in area and is about 4 to 6 feet thick. The elevation of the site is between 5 and 20 feet above MLLW. An elevated ridgeline along Sitkin Sound marks its eastern boundary, and Clam Road marks its western boundary. To the west of the site are several depressions permanently filled with water, remaining from borrow operations. Materials observed within these pits consist of clean sands, cobbles, and boulders. To the west of these water-filled depressions is a linear ridge of organic materials and gravels that appear to have been stripped from the area to expose the underlying cobble and gravel. The landfill has been covered with a soil cap; however, minor amounts of metal debris can be seen protruding from this cover.

The Causeway Landfill operated from the mid-1950s to the early 1960s and reportedly received waste materials that included sanitary trash, construction debris, scrap equipment, and other refuse generated by NSGA. No records have been found indicating the amount of hazardous material that may have entered the landfill. Based on known operations at NSGA, it has been estimated that less than 50 gallons of liquid waste per month were disposed of at this location.

WWII defensive plans for the island from May 1945 contained proposed locations for defensive works including 27 minefield locations with instructions to emplace mines in the event of imminent invasion. Adak was never invaded and WWII ended three months after the date of the defensive plan. Nonetheless, the potential minefields were investigated intrusively or by surface inspection. Live mines and training mines (both inert and live) were found only at the SWMU 2 minefield, geographically separate from the SWMU 2 landfill to the south. The mines are believed to have been placed there for training purposes and not as part of the defensive plan. In 1998, the mines were removed from the site by the Navy.

The Causeway Landfill was investigated from 1994 through 1997 for subsurface and surface contamination, including ordnance compounds. No detections of ordnance compounds were identified from subsurface soil or groundwater samples, and no visual evidence of MEC in landfill debris was observed during intrusive investigations. Causeway Landfill was retained for further evaluation as part of the RI/FS due to concentrations of Aroclors, cPAHs and inorganics reported in subsurface soils, and 1,3-dinitrobenzene and inorganics present in groundwater samples.

Analytical results of sediment, soil, and groundwater samples were used in a PSE-2 and a revised PSE-2.

SWMU 2 - Causeway Landfill and Minefield — OU A

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	20
Number of Pre-Rod Samples	36
Potential Contaminat Types Evaluated	Dioxins and furans, Metals, Ordnance, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Marine sediment, Sediment , Sub-surface soil (> 6"), Surface water
Types of Pre-ROD Locations	Borehole/Soil boring, Intertidal, Lake/pond/open reservoir, Test Pit, Well

COCs AND RISKS:

The OU A ROD did not establish any COCs for this site.

Analytical results of sediment, soil, and groundwater samples were used in a PSE-2 and a revised PSE-2. The estimated cumulative human health risk under a residential use scenario was 1.1E-05 due to the presence of Aroclors, 2,3,7,8-TCDD, and SVOCs in the subsurface soil. There were no human health risk drivers greater than 1E-05 (Tables 6-3 and 6-4 of the OU A ROD). The ecological HI was 85, based on exposure to subsurface soils Tables 6-6 and 6-7 of the OU A ROD). Ecological receptors used in the risk assessment do not burrow; therefore, as long as the landfill cover is not disturbed, the site does not pose a significant risk to ecological receptors. Ecological risk drivers were Aroclor 1248, Aroclor 1254, copper, lead, 4-methylphenol, 2,3,7,8-TCDD (TEF), and zinc. This site was determined to not pose significant risk nor exceed ARARs.

RAOs:

The OU A ROD for SWMU 2 established the following RAOs (interpreted from Table 7-2, and pg. 10-2 of the OU A ROD) :

- Protect ecological receptors from exposure to landfill debris and subsurface soil that could result in cancer risk greater than 1E-05 or a noncancer risk above an HI of 1.0.

SWMU 2 - Causeway Landfill and Minefield — OU A

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is ICs. The implementation of ICs began in 1999.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 2.

SWMU 2 - Causeway Landfill and Minefield OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection — Click to View ICMP Table
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date June 1996 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

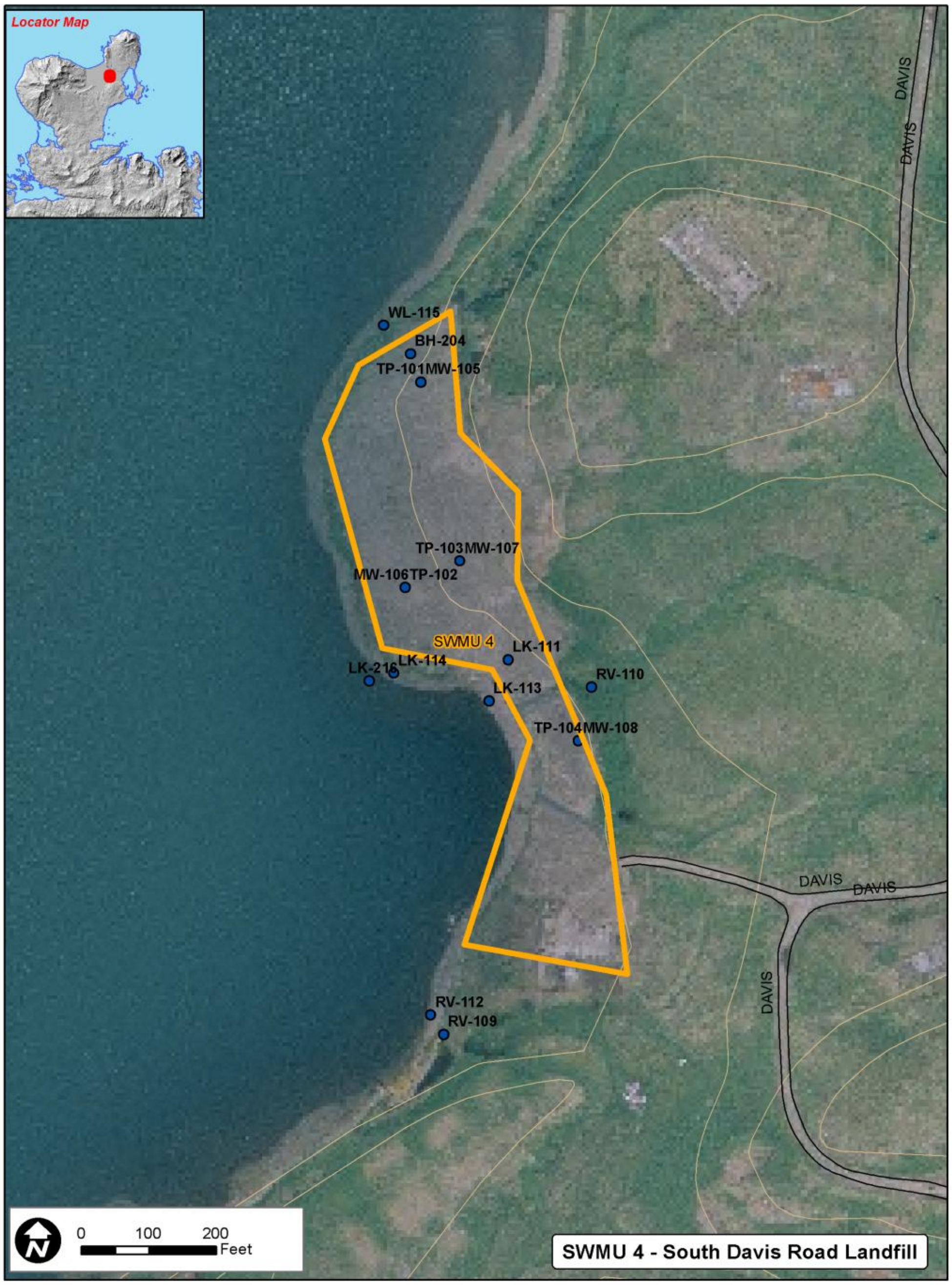
Following the 2010 IC inspection, the landfill cap appears to be in good condition and functioning as intended. Several instances of exposed metal debris have been identified; however, it appears ICs are functioning as intended.

BIBLIOGRAPHY:

13, 65, 72, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 4 - South Davis Road Landfill   OU A



SWMU 4 - South Davis Road Landfill OU A

STATUS: IC and landfill inspections.

BACKGROUND:

SWMU 4, South Davis Road Landfill, is located on the eastern shore of Andrew Lake. The western boundary of the site is the shoreline of Andrew Lake. The eastern boundary of the site is at the base of a ridge that ranges from approximately 90 feet above MLLW on the north to approximately 50 feet above MLLW on the southern boundary of the site.

The surface of the site is approximately 20 to 25 feet above MLLW and is relatively flat and featureless. The elevation of Andrew Lake is approximately 15 feet above MLLW. Two intermittent streams transect the site that is predominantly covered with grasses, tundra, and mosses. Metal and other debris were observed on the surface in a 1975 aerial photograph and protruded from the soil at several locations. Field observations indicate that the landfill encompasses approximately 3 acres.

The South Davis Road Landfill operated from the early to late 1940s. The date of closure is uncertain, but is believed to be prior to 1950. The majority of the materials disposed of in this landfill are believed to be solid wastes generated from the construction and subsequent demolition of Albert Mitchell Airfield. Albert Mitchell Airfield was constructed between Clam Lagoon and Andrew Lake in 1942. Albert Mitchell Airfield was closed in 1945, and all associated activities were transferred to the main Adak airfield.

Analytical results of sediment, soil, surface water, and sediment samples were used in a PSE-2 and a revised PSE-2.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	17
Number of Pre-Rod Samples	30
Potential Contaminat Types Evaluated	Dioxins and furans, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Sub-surface soil (> 6"), Surface water
Types of Pre-ROD Locations	Borehole/Soil boring, Lake/pond/open reservoir, River/stream, Test Pit, Well, Wetlands

SWMU 4 - South Davis Road Landfill — OU A

COCs AND RISKS:

The following COCs in subsurface soils were identified in the OU A ROD (Table 7-3 of the OU A ROD):

Soil

- 2,3,7,8-TCDD
- Aroclor 1254
- Aroclor 1260
- Copper
- Lead
- Zinc

The human health risk under a residential use exposure scenario was estimated to be 4.5E-05. The primary risk driver was arsenic in subsurface soil (Tables 6-4 and 6-5 of the OU A ROD). The maximum arsenic concentration in subsurface soil at the site is 7 mg/kg, which is within one order of magnitude of the low end of the background range of 2 mg/kg. The ecological HI associated with soil was 126. Primary ecological risk drivers were inorganics, Aroclors, and 2,3,7,8-TCDD (Tables 6-6 and 6-7 of the OU A ROD). The ecological receptors of concern for adverse risks were birds, invertebrates, and plants. Exposures of Dioxin and PCB compounds were possible through the following pathways: to birds through ingestion of prey and particles of subsurface soil, to invertebrates via ingestion of subsurface soil and direct dermal contact, and plants via root uptake. Ecological receptors used in the risk assessment do not burrow; therefore, as long as the landfill cover is not disturbed, the site does not pose a significant risk to ecological receptors.

RAOs:

The OU A ROD for SWMU 4 established the following RAOs (Table 7-3 and pg. 10-4 of the OU A ROD):

- Protect the ecological receptors that may ingest on-site plants (The plants may uptake subsurface chemicals).
- Prevent ingestion of and contact with impacted subsurface soils within the landfill debris.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is an engineered cover and ICs. Placement of the landfill cover was completed in 1998. The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 4.

SWMU 4 - South Davis Road Landfill — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Although on-going monitoring is not required for this site, the Navy database contains results for a sediment sample, DL-01, collected on September 14, 2009. The annual groundwater monitoring, landfill monitoring, and IC inspection reports do not discuss the purpose of this sample.

In 2008, a groundwater seep was observed flowing out of the toe of the landfill on the shoreline and into adjacent Lake Andrew. In September 2009, one sediment sample (DL-01) was collected along the lake shore where the seep had been observed in 2008. At the time of the sampling, no seep was observed flowing from the landfill; therefore, only sediment was collected. The sediment sample collected at location DL-01 was analyzed for polychlorinated biphenyl (PCB) compounds, polycyclic aromatic hydrocarbons (PAHs) including bis(2-ethyl, 2-hexyl)phthalate, and 13 total priority pollutant metals.

Concentrations of PCB Aroclor 1260 were found to exceed endpoint criteria developed for the Palisades Landfill and indicate that this contaminant may be migrating from the landfill and impacting Lake Andrew. It was noted that risk-based endpoint criteria for the Palisades Landfill site may not correlate to risks associated with the SWMU 4, South Davis Road Landfill site. Therefore site-specific risk-based endpoint criteria may need to be developed to determine if sediments are being impacted by onsite contamination at unacceptable levels of risk.

Prior to collection of this one sediment sample in September 2009, the most recent sampling event at SWMU 4 was in 1996.

Monitoring Types:

- [ ] Groundwater Monitoring
- [x] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2009 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SWMU 4 - South Davis Road Landfill OU A

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report identified erosion at the north end of the landfill and exposure of the landfill liner. Ponding was noted in one of the drainage swales.

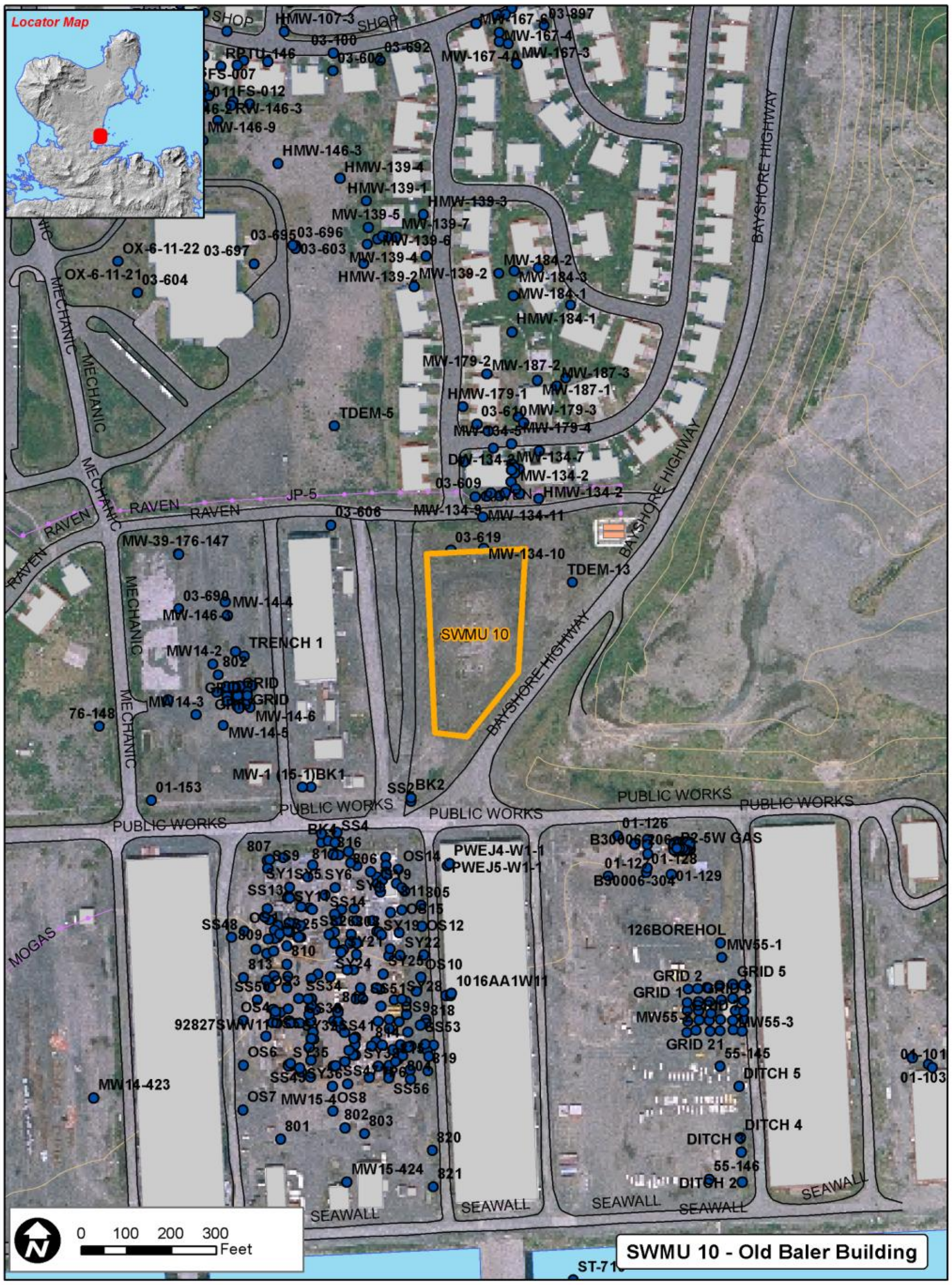
The August 2010 site inspection conducted in support of the five-year review documented that repairs recently had been made to the landfill cap and new signs had been installed. The landfill is currently not being used and it appears ICs are functioning as intended. The 2010 IC report recommended vegetation be removed from the northern swale to improve drainage.

BIBLIOGRAPHY:

13, 15, 65, 66, 72, 84, 86, 113, 125, 129, 131

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 10 - Old Baler Building — OU A



SWMU 10 - Old Baler Building OU A

STATUS: IC inspections.

BACKGROUND:

SWMU 10, the Old Baler Building site, is located west of Monument Hill and approximately 1,200 feet north of Sweeper Cove. The facility is approximately 1.5 acres in area. It has a foundation footprint measuring approximately 100 feet wide (east-west dimension) by 200 feet long (north-south dimension). SWMU 10 ranges in elevation from 32.6 feet above msl at the northeast end of the site to 20.6 feet above msl at the southwest corner. The ground surface at the site gradually slopes to the southwest.

The Old Baler facility was once used to mechanically compact and compress municipal waste. PCBs, VOCs, SVOCs, and inorganics have been detected in soils at this site. The presence of these chemicals constitutes the principal concern at SWMU 10.

The date when operations started at the Old Baler facility is not known. Based on historical information, the building housing the baling equipment (used for compacting waste material) was constructed as a warehouse during WWII. In the late 1950s, the building was converted into a compaction and baling facility for municipal waste. Before its conversion, the building was used as an auto repair shop and living quarters for the line crew. Materials reportedly stored in the building in the past include transformers, traffic signs, pipe, wire spools, metal fencing, tires, welding gases, and 55-gallon drums of lubricants and transmission oils.

The baler building was demolished in 1992, and the concrete foundation pad was left in place.

Analytical results of surface soil samples collected for the site inspection were used in a PSE-1.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	17
Number of Pre-Rod Samples	19
Potential Contaminat Types Evaluated	Herbicides, Metals, Pesticides and aroclors, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Product (floating or free), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Ground surface

SWMU 10 - Old Baler Building — OU A

COCs AND RISKS:

Human health cancer risks greater than 1E-05 in soils were driven by the chemicals listed below in surface soil in the OU A ROD (Table 6-5 of the OU A ROD).

Soil

- Aroclor 1260
- Indeno(1,2,3-cd)pyrene

Human health risk under a residential exposure scenario was estimated to be 6E-05. The estimated risk under an industrial exposure scenario (current use) is 3 E-06. The primary risk drivers are indeno(1,2,3-cd)pyrene and Aroclor 1260 in surface soil (Tables 6-4 and 6-5 of the OU A ROD). The ecological HI associated with surface soil was 59. The primary ecological risk driver is Aroclor 1260 in surface soil (Tables 6-6 and 6-7 of the OU A ROD). Because of the site and habitat characteristics, the site was found not to pose a significant risk to ecological receptors.

RAOs:

The OU A ROD for SWMU 10 established the following original RAOs (interpreted from Table 7-2 and pg. 10-6 of the OU A ROD):

- Protect human health exposure to surface soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is ICs.

ICs were implemented in 2000 following execution of the OU A ROD. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SWMU 10.

SWMU 10 - Old Baler Building — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection — **Click to View ICMP Table**
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date June 1991 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SWMU 10 - Old Baler Building OU A

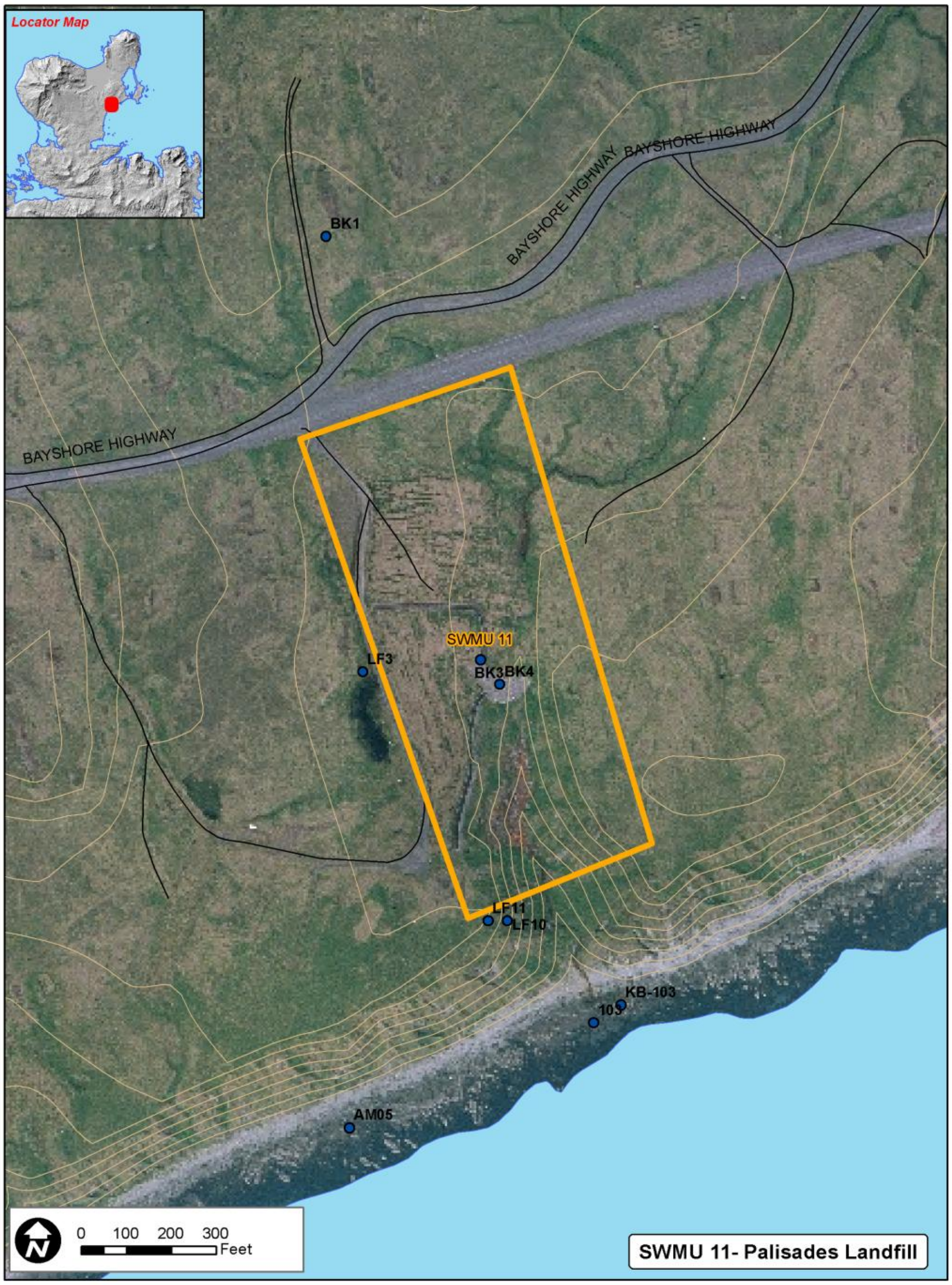
SUMMARY OF INSPECTION RESULTS:

The five-year review inspection in September 2010 found that the site has had no apparent activity since the last five-year review and that Ics are functioning as intended.

BIBLIOGRAPHY:

15, 53, 67, 73, 75 , 84, 86, 91, 125, 129

SWMU 11 - Palisades Landfill OU A



SWMU 11 - Palisades Landfill OU A

STATUS: IC inspection, landfill inspection, sediment monitoring.

BACKGROUND:

SWMU 11, Palisades Landfill, is located several miles north of the main downtown area and was used as the primary disposal area for all operations on Adak Island from the 1940s to approximately 1970. The landfill area, which is approximately 6 acres, covers portions of the coastal uplands immediately adjacent to Kuluk Bay and part of a canyon or ravine. The ravine is approximately 1,200 feet long, 5 to 300 feet wide, and 5 to 150 feet deep, with a small stream (Palisades Creek) that runs through it. The mouth of the ravine opens immediately to Kuluk Bay.

The landfill received wastes from the 1940s to approximately 1970. Approximately 80,000 to 100,000 cubic yards of solid waste are located in the landfill. A wide variety of materials was reportedly disposed of at Palisades Landfill, including waste POL, chlorinated and nonchlorinated solvents, paint waste, sanitary trash, scrap vehicles, lead and mercury batteries, construction waste, and mercury. The landfill was covered with local soils in the early 1970s after disposal practices were stopped. A portion of the material disposed of within the ravine has no cover and is on a slope. The exposed waste in the ravine consists primarily of barrels and construction waste. The waste in the ravine covers a portion of Palisades Creek, which runs through the landfill before emptying into Kuluk Bay. The landfill does not extend into Kuluk Bay. Groundwater occurs locally under the site and discharges into the marine environment at the downgradient boundary.

Surface soil, groundwater, surface water, and stream sediment samples were collected during the 1988 and 1992 site investigations. VOCs, SVOCs, Aroclors, and inorganics were detected in soil. VOCs, SVOCs, and inorganics were detected in sediment. Inorganics were detected in surface water. Although no RI or risk assessment was performed at the time, the FFA parties concluded that performing an interim remedial action was the best option because of the following:

(1) The potential for exposure to contaminants in the environment in concentrations high enough to pose unacceptable human health risks or ecological impacts, based on the estimated nature and volume of wastes disposed of
(2) The toxic nature of the materials disposed of (e.g., chlorinated solvents were reportedly disposed of at both sites)
(3) The proximity of the site to sensitive marine environments
(4) The limited number of cost-effective remedial alternatives available for landfills
(5) The perception that the benefit gained by performing a detailed RI and FS prior to choosing an appropriate remedy would be offset by the cost of that investigation and the delay in implementing an action
(6) The need to stabilize the landfill and minimize further degradation

The 1995 interim action ROD recommended landfill capping to reduce risks to human and ecological receptors. Landfill capping was completed in 1996.

Rock sole fillet and blue mussel tissue monitoring in Kuluk Bay began in 1996. There also is a fish consumption advisory for Kuluk Bay. Risk potentially attributable to SWMU 11 is assessed as part of the monitoring program established for Kuluk Bay, the downgradient water body which was evaluated by a risk assessment in the Adak RI/FS.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	24
Number of Pre-Rod Samples	110
Potential Contaminat Types Evaluated	Biological, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Marine sediment, Sediment , Sub-surface soil (> 6"), Surface water, Tissue
Types of Pre-ROD Locations	Borehole/Soil boring, Intertidal, Lake/pond/open reservoir, River/stream, Subtidal, Well

SWMU 11 - Palisades Landfill OU A

COCs AND RISKS:

No risk assessment was performed for SWMU 11. SWMU 11 was included in an interim action ROD that specified the placement of a cover over the landfills, monitoring, and ICs. A cover was placed on the site as an interim remedial action. The OU A ROD selected the interim action as a final remedy. The capping, monitoring, and IC actions performed under the interim action ROD were evaluated and determined to be protective.

RAOs:

The OU A ROD for SWMU 11 established the following original RAO for (interpreted from pgs. 7-6 and 10-2 of the OU A ROD):

- Protect human health and ecological receptors from exposure to landfill debris and soil that could result in cancer risk greater than 1E-05 or a noncancer risk above an HI of 1.0.

REMEDY IMPLEMENTATION:

The landfill was recontoured and capped in 1996. The installed landfill cover consists of a surficial jute mat and seed layer underlain by a 2-foot-thick layer of compacted soil, underlain by a 6-inch leveling soil layer. The implementation of Ics began following execution of the OU A ROD in April 2000. The OU A ROD also identifies comprehensive monitoring and signage as engineering controls to be implemented as part of the remedy. The Ics prohibit residential use at SWMU 11, restrict land use to recreational or industrial applications, restrict groundwater use, and prohibit excavation. The ICMP describes implementation and monitoring of Ics at OU A, including SWMU 11, and reporting of inspections. Language constituting an equitable servitude is included in the Interim Conveyance that transfers the property from the United States to The Aleut Corporation so that the use restrictions run with the land and are binding on future landowners. Site conditions are reviewed every five years to evaluate protectiveness of the remedy as part of the engineering controls. Annual site visits are conducted to inspect engineered controls. Monitoring requirements are reviewed annually, in conjunction with ADEC and EPA, to re-evaluate the need for monitoring, monitoring frequency, and target analytes. Surface water and sediment monitoring at SWMU 11 began in 1996. Surface water monitoring was discontinued beginning in 2009 and sediment monitoring is ongoing. Blue mussel monitoring was conducted annually from 1996 through 1999. Rock sole and blue mussel monitoring was conducted annually throughout Kuluk Bay from 1999-2002, and has been conducted biannually since 2003. One of the blue mussel sampling locations in Kuluk Bay is located in close proximity to SWMU 11. Landfill inspection, IC inspection, and sediment monitoring are conducted annually and details of maintenance and monitoring activities are covered in the Comprehensive Monitoring Plan.

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 11 - Palisades Landfill — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [x] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — **Click to View ICMP Table**
- [x] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date August 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Sediment

Current Analytes Sampled Total As, total Sb, total Ni, PCBs , bis(2-ethylhexyl)phthalate, PAHs

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** SWMU11_MonCurr.pdf

SWMU 11 - Palisades Landfill — OU A

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
101	Post closure monitoring	Surface water and Sediment

1999	Surface water: BTEX, SVOCs, Pesticides/PCBs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs, TIN
2000	Surface water: VOCs, SVOCs, Pesticides/PCBs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs,TIN
2001	Surface water: VOCs, SVOCs, Pesticides/PCBs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs, TIN
2002	Surface water: VOCs, SVOCs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs, TOC, GS
2003	Surface water: PCBs, TIN, DIN Sediment: SVOCs, PCBs, TIN, TOC, GS
2004	Surface water: PCBs, TIN, DIN Sediment: SVOCs, PCBs, TIN, TOC, GS
2005	Surface water: TIN, DIN Sediment: SVOCs, TIN, TOC, GS
2006	Surface water: TIN, DIN Sediment: SVOCs, PCBs, TIN, TOC, GS
2007	Surface water: Monitoring not planned Sediment: SVOCs, TIN
2008	Surface water: TIN, DIN Sediment: SVOCs, PCBs, TIN
2009	Surface water: Met endpoint criteria; monitoring discontinued Sediment: SVOCs, TIN
2010	Sediment: SVOCs, PCBs, TIN

SWMU 11 - Palisades Landfill OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
102	Post closure monitoring	Surface water and Sediment

1999	Surface water: BTEX, SVOCs, Pesticides/PCBs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs, TIN
2000	Surface water: VOCs, SVOCs, Pesticides/PCBs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs, TIN
2001	Surface water: VOCs, SVOCs, Pesticides/PCBs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs, TIN
2002	Surface water: VOCs, SVOCs, TIN, DIN Sediment: SVOCs, Pesticides/PCBs, TOC, GS
2003	Surface water: PCBs, TIN, DIN Sediment: SVOCs, PCBs, TIN, TOC, GS
2004	Surface water: PCBs, TIN, DIN Sediment: SVOCs, PCBs, TIN, TOC, GS
2005	Surface water: TIN, DIN Sediment: SVOCs, PCBs, TIN, TOC, GS
2006	Surface water: TIN, DIN Sediment: SVOCs, PCBs, TIN, TOC, GS
2007	Surface water: Monitoring not planned Sediment: SVOCs, TIN
2008	Surface water: TIN, DIN Sediment: SVOCs, PCBs, TIN
2009	Surface water: Met endpoint criteria; monitoring discontinued Sediment: SVOCs, TIN
2010	Sediment: SVOCs, PCBs, TIN

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
103	Post closure monitoring	Sediment

1999	SVOCs, Pesticides/PCBs, and TIN
2000	SVOCs, Pesticides/PCBs, and TIN
2001	SVOCs, Pesticides/PCBs, TIN
2002	SVOCs, Pesticides/PCBs, TIN, TOC, grain size
2003	SVOCs, PCBs, TIN, TOC, grain size
2004	SVOCs, PCBs, TIN, TOC, grain size
2005	TIN, SVOCs, grain size, TOC
2006	SVOCs, PCBs, TIN, TOC, grain size
2007	SVOCs, TIN
2008	SVOCs, PCBs, TIN
2009	SVOCs, TIN
2010	SVOCs, PCBs, TIN

SWMU 11 - Palisades Landfill — OU A

SUMMARY OF INSPECTION RESULTS:

During the 2007 supplemental inspection, the drainage swales at the Palisades Landfill were inspected and the following repairs were recommended: place new liner along 40 feet of the south channel, glue in place, and place 5/8- to 4-inch rock on top of liner edges to keep liner in place and intact; and remove liner and base rock from 80 feet of the north channel, replace liner with new woven 20-mil PVC geotextile liner, and place 5/8- to 4-inch rock on top of liner to keep liner in place and intact. These repairs were made during the 2008 field season.

During the 2009 IC inspection, tears in the southwest swale liner were reported, as well as a section of loose (unsecured) swale liner, broken or damaged signs, and ponding on the landfill surface. Otherwise ICs appeared to be functioning as intended.

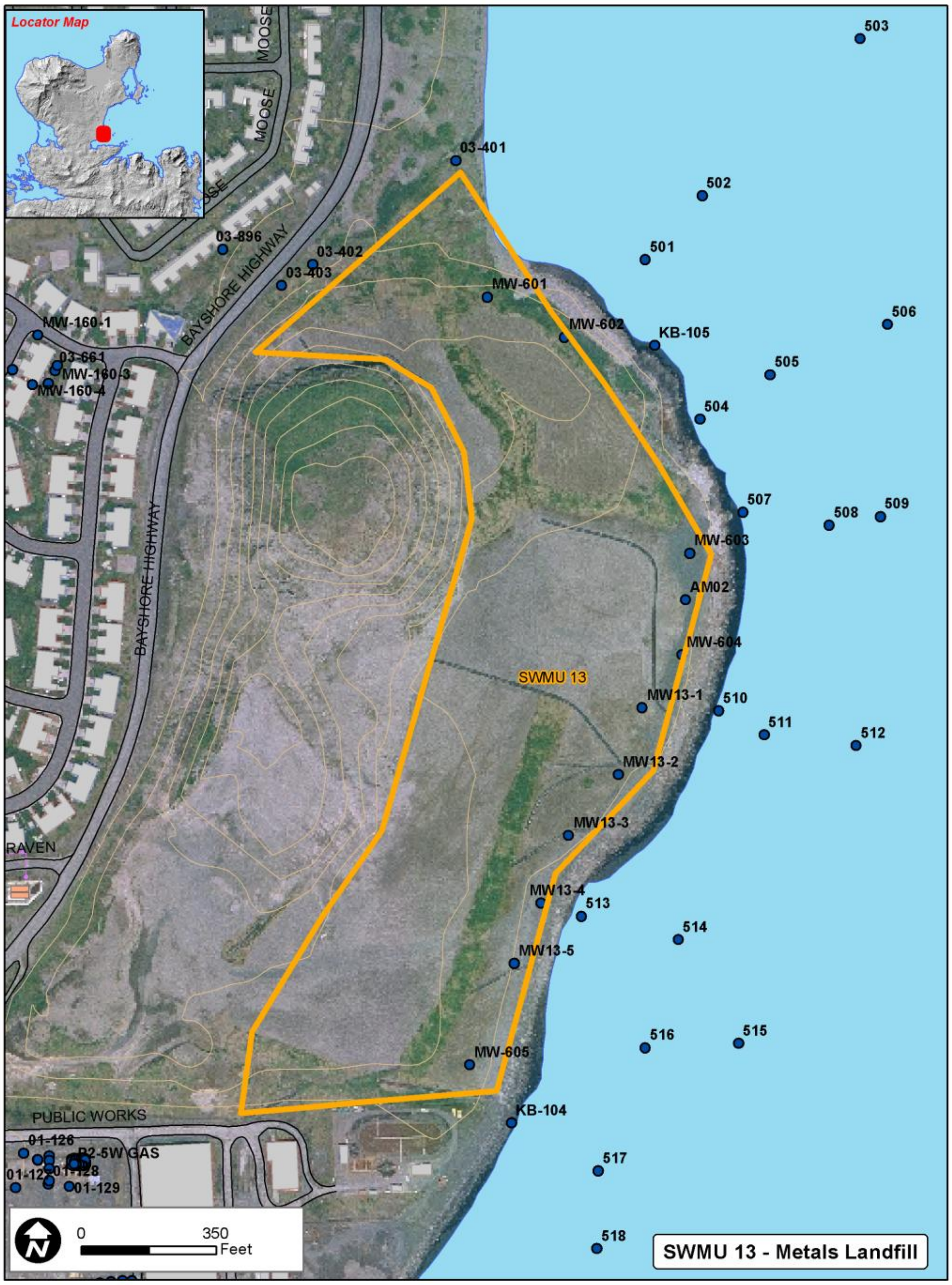
The August 2010 site inspection performed in support of the five-year review noted minor grading and new riprap and signage resulting from recent repairs. Metal debris was noted in the ravine below the repaired area.

BIBLIOGRAPHY:

29, 30, 31, 39, 44, 63, 65, 84, 85, 98, 126, 125, 129, 135

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 13 - Metals Landfill **OU A**



SWMU 13 - Metals Landfill   OU A

STATUS: Groundwater monitoring, landfill monitoring, and IC inspections.

BACKGROUND:

SWMU 13, Metals Landfill, is located immediately southeast of the central community of Adak and is bounded by Monument Hill to the west and Kuluk Bay to the east. The total volume of landfill waste and soil in the Metals Landfill is approximately 400,000 cubic yards, not including the material that was scattered on the surface and adjacent to the shoreline. The total site area is approximately 28 acres, of which approximately 19 acres were used as a landfill.

The Metals Landfill began operations in the 1940s and received a variety of waste materials, including sanitary trash, construction waste, paints, chlorinated and nonchlorinated solvents, batteries, scrap vehicles, medical waste, and sewage sludge. In 1970, restrictions were placed on the types of materials that could be disposed of at the landfill. Beginning in 1988, when a sludge press was installed at the sewage treatment plant, dewatered sewage sludge was disposed of on the southern end of the eastern section of the landfill. The landfill stopped receiving wastes in 1989.

In 1989, regulatory agencies conducted a site inspection of the Metals Landfill. They discovered four drums with liquid, one cracked vehicular battery, and one acetylene cylinder scattered in one small area of the landfill. As a result of the inspection, the regulatory agencies determined that the battery area contained hazardous waste, and therefore was considered a hazardous waste pile under RCRA. This is the only area of the landfill to have a RCRA violation. The remaining landfill has been designated as a solid waste management unit under RCRA. The presence of the batteries resulted in a Federal Facilities Compliance Agreement being signed and issued by the EPA in November 1990. This hazardous waste pile was closed under RCRA guidelines.

Surface and subsurface soil, groundwater, surface water, and sediment samples were collected during the 1989 and 1992 site investigations, and quarterly groundwater sampling was conducted in 1992 and 1993. VOCs, SVOCs, pesticides, Aroclors, and inorganics were detected in soil. Total petroleum hydrocarbons were detected above regulatory criteria in one well. Although no RI or risk assessment was performed at the time, the FFA parties concluded that performing an interim remedial action was the best option because of:

(1) The potential for exposure to contaminants in the environment in concentrations high enough to pose unacceptable human health risks or ecological impacts, based on the estimated nature and volume of wastes disposed of
(2) The toxic nature of the materials disposed of (e.g., chlorinated solvents were reportedly disposed of at both sites)
(3) The proximity of the site to sensitive marine environments
(4) The limited number of cost-effective remedial alternatives available for landfills
(5) The perception that the benefit gained by performing a detailed RI/FS prior to choosing an appropriate remedy would be offset by the cost of that investigation and the delay in implementing an action
(6) The need to stabilize the landfill and minimize further degradation

SWMU 13 - Metals Landfill OU A

After the landfill was recontoured and capped in 1996, the Navy performed additional construction activities at the site. In 2000, the Navy removed approximately 98 percent of the scrapped equipment and miscellaneous metal debris that littered approximately 1,500 feet of the shoreline along the landfill, and installed a protective riprap cover over the shoreline.

Risk that is potentially attributable to SWMU 13 is assessed as part of the monitoring program established for Kuluk Bay, the downgradient water body, which was evaluated by a risk assessment in the Adak RI/FS.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	71
Number of Pre-Rod Samples	170
Potential Contaminat Types Evaluated	Biological, Dioxins and furans, Inorganics, Metals, Ordnance, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Marine sediment, Marine water, Sediment , Surface soil (less than 6 inches), Tissue
Types of Pre-ROD Locations	Ground surface, Intertidal, Lake/pond/open reservoir, Monitoring well, Subtidal

SWMU 13 - Metals Landfill — OU A

COCs AND RISKS:

No risk assessment was performed for SWMU 13. SWMU 13 was included in an interim action ROD that specified the placement of a cover over the landfills, monitoring, and ICs. A cover was placed on the site as an interim remedial action. The OU A ROD selected the interim action as a final remedy. The capping, monitoring, and IC actions done under the interim action ROD were evaluated and determined to be protective.

RAOs:

The OU A ROD for SWMU 13 established the following original RAO (interpreted from pgs. 7-6 and 10-2 of the OU A ROD):

- Protect human health and ecological receptors from exposure to landfill debris and soil that could result in cancer risk greater than 1E-05 or a noncancer risk above an HI of 1.0.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is engineering controls, ICs, and groundwater monitoring.

An engineered landfill cover constituted the engineering control remedy. The landfill was recontoured and capped in 1996. The installed landfill cover consists of a surficial jute mat and seed layer underlain by a 2-foot-thick layer of compacted soil, underlain by a 6-inch leveling soil layer. Groundwater monitoring began in 1996.

ICs included land use restrictions, access restrictions, and excavation prohibition. ICs were implemented in 2000 following execution of the OU A ROD.

SWMU 13 - Metals Landfill — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [x] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date August 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled Total As, dissolved As, total Ba, dissolved Ba, alkalinity, COD, sulfate, TDS, TKN, ammonia nitrogen

Current Monitoring Click to View Current Monitoring **Monitoring File:** SWMU13_MonCurr.pdf

SWMU 13 - Metals Landfill — OU A

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-1	Post closure monitoring	Groundwater
1999	VOCs, SVOCs, Pesticides/PCBs, TIN and DIN	
2000	Sampling not performed	
2001	SVOCs, Pesticides/PCBs, TIN, DIN	
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2003	VOCs, SVOCs, TIN, DIN	
2004	PCBs, VOCs, SVOCs, TIN, DIN	
2005	TIN, DIN	
2006	VOCs, SVOCs, TIN, DIN	
2007	TIN, DIN, total and dissolved barium	
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium	
2009	TIN, DIN, total and dissolved barium	
2010	Total and dissolved arsenic, total and dissolved barium	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-2	Post closure monitoring	Groundwater
1999	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2000	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2001	SVOCs, Pesticides/PCBs, TIN, DIN	
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2003	VOCs, SVOCs, TIN, DIN	
2004	PCBs, VOCs, SVOCs, TIN, DIN	
2005	TIN, DIN	
2006	VOCs, SVOCs, TIN, DIN	
2007	TIN, DIN, total and dissolved barium	
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	Total and dissolved arsenic, total and dissolved barium	

SWMU 13 - Metals Landfill — OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-3	Post closure monitoring	Groundwater
1999	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2000	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2001	SVOCs, Pesticides/PCBs, TIN, DIN	
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2003	VOCs, SVOCs, TIN, DIN	
2004	PCBs, VOCs, SVOCs, TIN, DIN	
2005	TIN, DIN	
2006	VOCs, SVOCs, TIN, DIN	
2007	TIN, DIN, total and dissolved barium	
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	Total and dissolved arsenic, total and dissolved barium	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-4	Post closure monitoring	Groundwater
1999	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2000	Sampling not performed	
2001	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2003	VOCs, SVOCs, TIN, DIN	
2004	PCBs, VOCs, SVOCs, TIN, DIN	
2005	TIN, DIN	
2006	VOCs, SVOCs, TIN, DIN	
2007	TIN, DIN, total and dissolved barium	
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	Total and dissolved arsenic, total and dissolved barium	

SWMU 13 - Metals Landfill — OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-5	Post closure monitoring	Groundwater

1999	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN
2000	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN
2001	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN
2003	VOCs, SVOCs, TIN, DIN
2004	PCBs, VOCs, SVOCs, TIN, DIN
2005	TIN, DIN
2006	VOCs, SVOCs, TIN, DIN
2007	TIN, DIN, total and dissolved barium
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium
2009	Monitoring not planned
2010	Total and dissolved arsenic, total and dissolved barium

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-603	Post closure monitoring	Groundwater

1999	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN
2000	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN
2001	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN
2003	VOCs, SVOCs, TIN, DIN
2004	PCBs, VOCs, SVOCs, TIN, DIN
2005	TIN, DIN
2006	VOCs, SVOCs, TIN, DIN
2007	TIN, DIN, total and dissolved barium
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium
2009	Monitoring not planned
2010	Total and dissolved arsenic, total and dissolved barium

SWMU 13 - Metals Landfill OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-604	Post closure monitoring	Groundwater
1999	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2000	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2001	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2003	VOCs, SVOCs, TIN, DIN	
2004	PCBs, VOCs, SVOCs, TIN, DIN	
2005	TIN, DIN	
2006	VOCs, SVOCs, TIN, DIN	
2007	TIN, DIN, total and dissolved barium	
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	Total and dissolved arsenic, total and dissolved barium	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW13-605	Post closure monitoring	Groundwater
1999	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2000	VOCs, SVOCs, Pesticides/PCBs, TIN, and DIN	
2001	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2002	VOCs, SVOCs, Pesticides/PCBs, TIN, DIN	
2003	VOCs, SVOCs, TIN, DIN	
2004	PCBs, VOCs, SVOCs, TIN, DIN	
2005	TIN, DIN	
2006	VOCs, SVOCs, TIN, DIN	
2007	TIN, DIN, total and dissolved barium	
2008	VOCs, SVOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	Total and dissolved arsenic, total and dissolved barium	

SUMMARY OF INSPECTION RESULTS:

During the 2006 summer season, the Navy implemented a significant repair activity at the Metals Landfill, including replacing and securing 500 linear feet of drainage swale liner, repositioning and re-securing 274 lineal feet of liner, and inspecting and repairing/reworking an additional 170 lineal feet of liner beyond those areas known to require attention.

During the August 2007 supplemental inspection of the Metals Landfill, the drainage swales and associated liners were inspected and the following repairs were recommended: add approximately 60 feet of 5/8- to 4-inch crushed rock on exposed liner along Drainage Channel 6 and replace 83 feet of liner along Drainage Channel 9. In 2008 Drainage Swale 9 was repaired.

During the 2009 inspection, it was noted that liners were visible in Drainage Swales 2, 3, 4, and 7, and additional gravel cover was needed. Metal debris is present along the shoreline on the armour rock in the northeast corner of the site. In 2009, areas of erosion of the armoured wall were identified. Otherwise the cap has been observed to be in good condition, and ICs are functioning as intended.

The August 2010 site inspection performed for the five-year review noted 2010 improvements to the cap and removal of metal debris along the shoreline areas. Gravel/rock had been added to drainage swales. Accumulated metal debris was observed around rocks near northeast corner of landfill.

BIBLIOGRAPHY:

24, 29, 30, 31, 38, 39, 44, 62, 63, 65, 84, 85, 86, 98, 125, 129, 135


Locator Map
JP-5
RAVEN
RAVEN
03-606
MW-39-176-147
MECHANIC
MECHANIC
MW-146-3
03-690
MW-14-4
TRENCH 2
TRENCH 1
MW14-2
802
PB-WEST+47
GRID
GRID
TRENCH 3
SWMU 14
TRENCH 4
MW14-3
MW-14-6
MW-14-5
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MW-1 (15-1)
BK1
01-153
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SS4
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SY3
SS9
0930NE5W11
SS10
SY7
0930NE4W11
SY8
SY9
SY5
SY6
0
100
Feet
SWMU 14 - Old Pesticide Storage and Disposal Area

SWMU 14 - Old Pesticide Area — OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

SWMU 14, the Old Pesticide Disposal Area, consists of a vacant property located to the southwest of the Public Works building in the downtown area. The site includes the foundation of former Building 1471 and an abandoned drain field reportedly used to disperse pesticide rinse water. The site is bounded to the north by the Public Works building parking area and Raven Street, to the south by Public Works Road, to the west by an unnamed dirt road, and to the east by the Public Works building and its unnamed paved access road. Except for the concrete building foundation (slab) the site consists of a featureless, flat-lying, unpaved soil area covered with gravel. Elevation of the site ranges from about 23 to 24 feet above MLLW. Sweeper Cove is located approximately 1,500 feet south of the site.

Building 1471 was used from 1950 to 1987 for handling a variety of pesticides. From 1950 to 1980, residual material and rinse water from pesticide handling were discharged through a drainpipe to a subsurface drainfield at the south end of the building. The drainpipe reportedly broke in 1980, resulting in discharge directly to the ground surface from 1980 to 1984. Recycling of pesticide wastes and rinse water was initiated in 1984, and no additional wastewater was discharged to the site. During active use of the drainfield, an estimated 10 pounds per month of pesticides were reportedly discharged to the site, including Tordon(TM), Dursban(TM), pyrethrum, boric acid, Safrotin(TM), and Vaponite™. The basis for this estimate was not provided in the report.

Building 1471 also was used as a motor vehicle filling station from approximately 1950 to 1985. Two USTs, one for leaded and one for unleaded gasoline, were reportedly located approximately 100 feet south of the building foundation. The contents were reported to have been drained in 1988, but the tanks were believed to have been left in place. In 1992, the Navy used ground-penetrating radar to locate the USTs. Suspect locations were identified. Excavations to locate the tanks occurred in 1996 during the PSE-2 field work. Empty fuel pipes were found and excavated, but there was no evidence of buried USTs.

SWMU 14 also was evaluated under SAERA because it contains petroleum contamination. The site was screened using ADEC groundwater cleanup levels and was retained for evaluation in the focused feasibility study, because the maximum concentration of GRO exceeded the screening criteria of 1,300 µg/L (18 AAC 75.345) during all four quarterly groundwater sampling events in 1999 and 2000. Additionally, toluene was detected at 370,000 µg/L in June 2000, which exceeds the ROD-established groundwater cleanup levels of 1,000 µg/L (18 AAC 75.345).

SWMU 14 - Old Pesticide Area OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	27
Number of Pre-Rod Samples	45
Potential Contaminat Types Evaluated	Herbicides, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Ground surface, Monitoring well, Test Pit, Well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (Table 6-5 and 10-3 of the OU A ROD):

<u>Groundwater</u>

- Bis(2-ethylhexyl)phthalate
- Ethylbenzene
- GRO
- Lead
- Tetrachloroethene
- Thallium
- Toluene

<u>Soil</u>

- Benzo(a)pyrene

The cancer risk calculated under the OU A ROD for the Adak residential scenario was 4.2E-5. The risk drivers for this site are benzo(a)pyrene in soil and tetrachloroethene in groundwater. The noncancer risk HI for the residential scenario is less than 1 (Tables 6-4 and 6-5 of the OU A ROD). SWMU 14 is not considered an ecological risk, because the site is not a likely habitat for foraging or nesting by ecological receptors

SWMU 14 also was evaluated under SAERA as part of the OU A ROD, because it contains petroleum contamination. The site was screened against the ADEC groundwater cleanup levels and was retained for evaluation in the focused feasibility study, because the maximum GRO concentration exceeded the screening criteria of 1,300 µg/L (18 AAC 75.345) during all four quarterly groundwater sampling events in

1999 and 2000 (U.S. Navy 2001a).

Additionally, toluene was detected at 370,000 µg/L in June 2000, which exceeds the ROD-established groundwater cleanup levels of 1,000 µg/L (18 AAC 75.345).

RAOs:

The OU A ROD for SWMU 14 established the following RAOs (interpreted from Table 7-2 and pg. 10-6, and Table 7-4 of the OU A ROD):

- Reduce petroleum concentrations in soil.
- Protect human health receptors from exposure to soil and groundwater.

SWMU 14 - Old Pesticide Area | OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is MNA for groundwater and ICs.

Groundwater monitoring began in 1999 and is ongoing. Natural attenuation parameters and sampled wells are identified in the current version of the Comprehensive Monitoring Plan.

ICs were implemented in 2000 following execution of the OU A ROD. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SWMU 14.

SWMU 14 - Old Pesticide Area — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Free product recovery was conducted in well 01-153 beginning in 2009, and was discontinued in June 2010.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — **Click to View ICMP Table**
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled GRO, DRO, total Pb, dissolved Pb, NAPs, product thickness

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** SWMU14_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

SWMU 14 - Old Pesticide Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
01-153	MNA, PT, Compliance	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	MNA: DRO, GRO, GRO fractions, BTEX, NAPs Compliance: Total and dissolved lead, total thallium, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2004	MNA: DRO, GRO, GRO fractions, BTEX, NAPs. Compliance: Total and dissolved lead, total thallium, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2005	MNA: GRO, BTEX, DRO. Compliance: Total and dissolved lead, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2006	MNA: GRO, BTEX, DRO (even years only). Compliance: Total and dissolved lead, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2007	MNA: Monitoring not planned. Compliance: Total and dissolved lead, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2008	MNA: DRO, GRO, BTEX, product thickness (monthly). Compliance: Total and dissolved lead, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2009	MNA: NAPs, product thickness (monthly). Compliance: Total and dissolved lead, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2010	MNA: Met endpoint criteria; DRO, GRO, BTEX monitoring discontinued, product thickness (monthly). Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride

SWMU 14 - Old Pesticide Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
55-145	MNA & Compliance	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	Monitoring not planned
2010	MNA: DRO, GRO. Compliance: total and dissolved lead

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
55-146	MNA & Compliance	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	MNA: DRO, GRO Compliance: total and dissolved lead
2010	MNA: DRO, GRO Compliance: total and dissolved lead

SWMU 14 - Old Pesticide Area OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW14-423	MNA & Compliance	Groundwater
1999	MNA: DRO, GRO, BTEX, NAPs. Compliance: total and dissolved lead (quarterly - 2 rounds)	
2000	MNA: DRO, GRO, BTEX, NAPs. Compliance: total and dissolved lead (quarterly - 2 rounds)	
2001	MNA: DRO, RRO, GRO, GRO fractions, BTEX, NAPs. Compliance: VOCs, SVOCs, total and dissolved lead, NAPs (quarterly - 2 rounds)	
2002	Damaged well could not be sampled	
2003	Removed from monitoring program Well is damaged	
2004	Monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW14-5	MNA & Compliance	Groundwater
1999	MNA: DRO, GRO, BTEX, NAPs (quarterly - 2 rounds). Compliance: total and dissolved lead (quarterly - 2 rounds)	
2000	MNA: DRO, GRO, BTEX, NAPs (quarterly - 2 rounds). Compliance: total and dissolved lead (quarterly - 2 rounds)	
2001	MNA: DRO, RRO, GRO, GRO fractions, BTEX, NAPs. Compliance: VOCs, SVOCs, total and dissolved lead	
2002	MNA: DRO, RRO, GRO, GRO fractions, BTEX, NAPs. Compliance: VOCs, SVOCs, total and dissolved lead	
2003	MNA: DRO, GRO, GRO fractions, BTEX, NAPs. Compliance: total and dissolved lead, total thallium, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate	
2004	MNA: DRO, GRO, GRO fractions, BTEX, NAPs. Compliance: total and dissolved lead, total thallium, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate	
2005	MNA: DRO, GRO, BTEX. Compliance: total and dissolved lead, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	
2006	MNA: DRO, GRO, BTEX. Compliance: total and dissolved lead, methylene chloride	
2007	MNA: DRO, GRO. Compliance: total and dissolved lead	
2008	MNA: DRO, GRO. Compliance: total and dissolved lead	
2009	MNA: DRO, GRO, NAPs. Compliance: total and dissolved lead	
2010	MNA: DRO, GRO. Compliance: total and dissolved lead	

SWMU 14 - Old Pesticide Area — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW15-3	5-year review support	Groundwater
2010	Five-year review support: total and dissolved lead, DRO, GRO	

SUMMARY OF INSPECTION RESULTS:

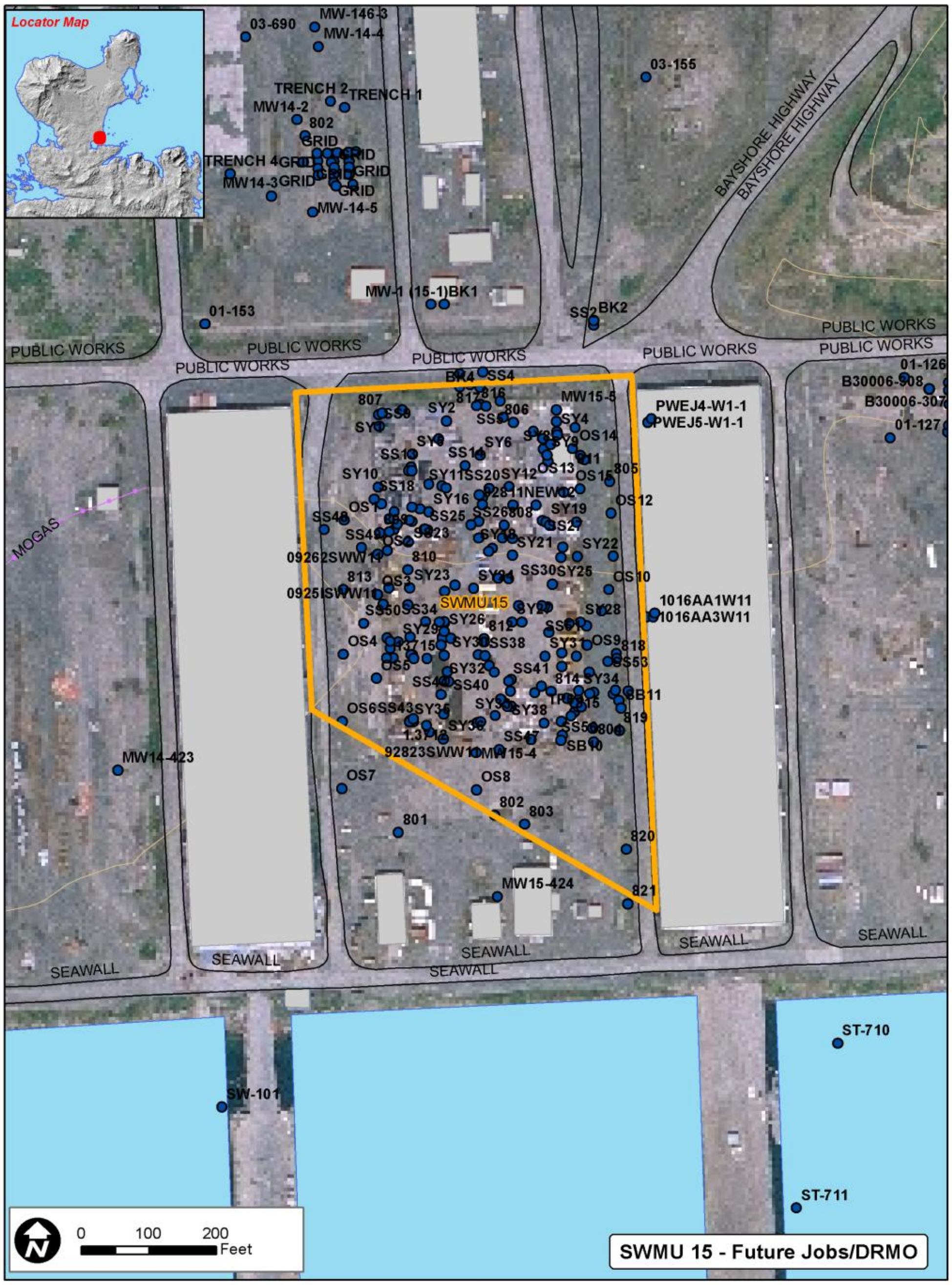
The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. ICs appear to be functioning as intended. The 2010 IC report recommends an excavation restriction sign be installed at the site.

BIBLIOGRAPHY:

13, 19, 52, 66, 81, 84, 86, 90, 91, 113, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 15 - Future Jobs/DRMO | **OU A - SAERA**



SWMU 15 - Future Jobs/DRMO — OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

SWMU 15, Future Jobs/DRMO, also known as the former HWSA, is located south of the Public Works Building and north of Sweeper Cover between Warehouse No. 2 (Building T-1443) and Warehouse No. 3 (Building T-1446), which are to the east and west of the site, respectively. The site is bordered on the north by Public Works Road and on the south by a paved area used for temporary storage of container vans and supplies. The entire 3½-acre site is surrounded by a 6-foot-high chain link fence, with another fence separating it into north and south storage areas. The only structure on site is a sheet metal storage shed at the northeast corner. The site is relatively flat, ranging between 18 and 19 feet above MLLW.

SWMU 15 was used as a storage yard from the 1950s until the site was cleared in 1992. It was initially used by DRMO (formerly the Defense Property Disposal Office) until 1984. Materials were left at the site until their removal in 1992. Materials stored at the site included construction materials (drums, crates, pipe, conductor cable, and brick), paints, chlorinated and nonchlorinated solvents, utility line transformers, and compounds. According to a previous study, no hazardous wastes have been stored at the site since 1984. As indicated in the initial assessment study, 150 gallons of PCB-containing transformer coolant were spilled near the southeast corner of the south fenced area.

In 1992, approximately 252 cubic yards of surface soil were removed, based on sampling conducted in 1990. Additional samples of surface and subsurface soil, sediment, and groundwater were collected in 1996 for the PSE-2.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	284
Number of Pre-Rod Samples	443
Potential Contaminat Types Evaluated	Dioxins and furans, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sediment , Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Drum/Container contents, Ground surface, Monitoring well, River/stream, Well

SWMU 15 - Future Jobs/DRMO OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (Table 6-5 and 10-3 of the OU A ROD):

Groundwater

- Tetrachloroethene
- Trichloroethene

The cancer risk calculated under the OU A ROD for the Adak residential scenario is 7.1E-05. The primary risk drivers are Aroclor 1260 and dioxin/furans in soil and PCE in groundwater. The noncancer risk HI for the residential scenario is less than 1 (Tables 6-4 and 6-5 of the OU A ROD). SWMU 15 is not considered an ecological risk, because the site is not a likely habitat for foraging or nesting by ecological receptors. The site is currently zoned industrial. SWMU 15 also was evaluated under SAERA as part of the OU A ROD, because of the presence of petroleum in environmental media.

RAOs:

The OU A ROD for SWMU 15 established the following RAOs (interpreted from Table 7-2 and pg. 10-6, and Table 7-4 of the OU A ROD):

- Mitigate potential for downgradient migration.
- Protect human health receptors from exposure to soil and groundwater.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is MNA and ICs. Natural attenuation groundwater monitoring for this site began in 1999 and is ongoing, as prescribed by the Comprehensive Monitoring Plan.

ICs were implemented in 2000 following execution of the OU A ROD. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SWMU 15.

SWMU 15 - Future Jobs/DRMO | OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☑	Groundwater Monitoring	☐	Landfill Inspection	
☐	Surface Water Monitoring	☑	IC Inspection	**Click to View ICMP Table**
☐	Sediment Monitoring	☐	Remediation System Monitoring and Maintenance	
☐	Tissue Monitoring	☐	None Required	

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled PCE and daughter products, dissolved Pb, total Pb

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** SWMU15_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
15-1	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, total and dissolved lead, VOCs, SVOCs, NAPs	
2002	GRO, GRO fractions, BTEX, DRO, RRO, VOCs, TIN, NAPs	
2003	No additional monitoring recommended	
2004	Monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW15-3	MNA & Compliance	Groundwater
1999	MNA: DRO, GRO, BTEX, NAPs (quarterly - 2 rounds). Compliance: monitoring not planned	
2000	MNA: DRO, GRO, BTEX, NAPs (quarterly - 2 rounds). Compliance: monitoring not planned	
2001	MNA: DRO, RRO, GRO, GRO fractions, BTEX, NAPs. Compliance: VOCs	
2002	MNA: DRO, RRO, GRO, BTEX, NAPs. Compliance: VOCs	
2003	MNA: DRO, GRO, GRO fractions, BTEX, NAPs. Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride	
2004	MNA: Met endpoint criteria; monitoring discontinued. Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride	
2005	Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	
2006	Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	
2007	Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	
2008	Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	
2009	Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	
2010	Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	

SWMU 15 - Future Jobs/DRMO — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW15-424	MNA, Compliance, 5-year review support	Groundwater

1999	MNA: DRO, GRO, BTEX, NAPs (quarterly - 2 rounds) Compliance & 5-year review support: monitoring not planned
2000	MNA: DRO, GRO, BTEX, NAPs (quarterly - 2 rounds) Compliance & 5-year review support: monitoring not planned
2001	MNA: DRO, RRO, GRO, GRO fractions, BTEX, NAPs Compliance: VOCs Five-year review support: monitoring not planned
2002	MNA: DRO, RRO, GRO, GRO fractions, BTEX, NAPs Compliance: VOCs, TIN Five-year review support: monitoring not planned
2003	MNA: DRO, GRO, GRO fractions, BTEX, NAPs Compliance: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride Five-year review support: monitoring not planned
2004	MNA & Compliance: met endpoint criteria; monitoring discontinued Five-year review support: monitoring not planned
2005	Five-year review support: monitoring not planned
2006	Five-year review support: monitoring not planned
2007	Five-year review support: monitoring not planned
2008	Five-year review support: monitoring not planned
2009	Five-year review support: monitoring not planned
2010	Five-year review support: TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride

SUMMARY OF INSPECTION RESULTS:

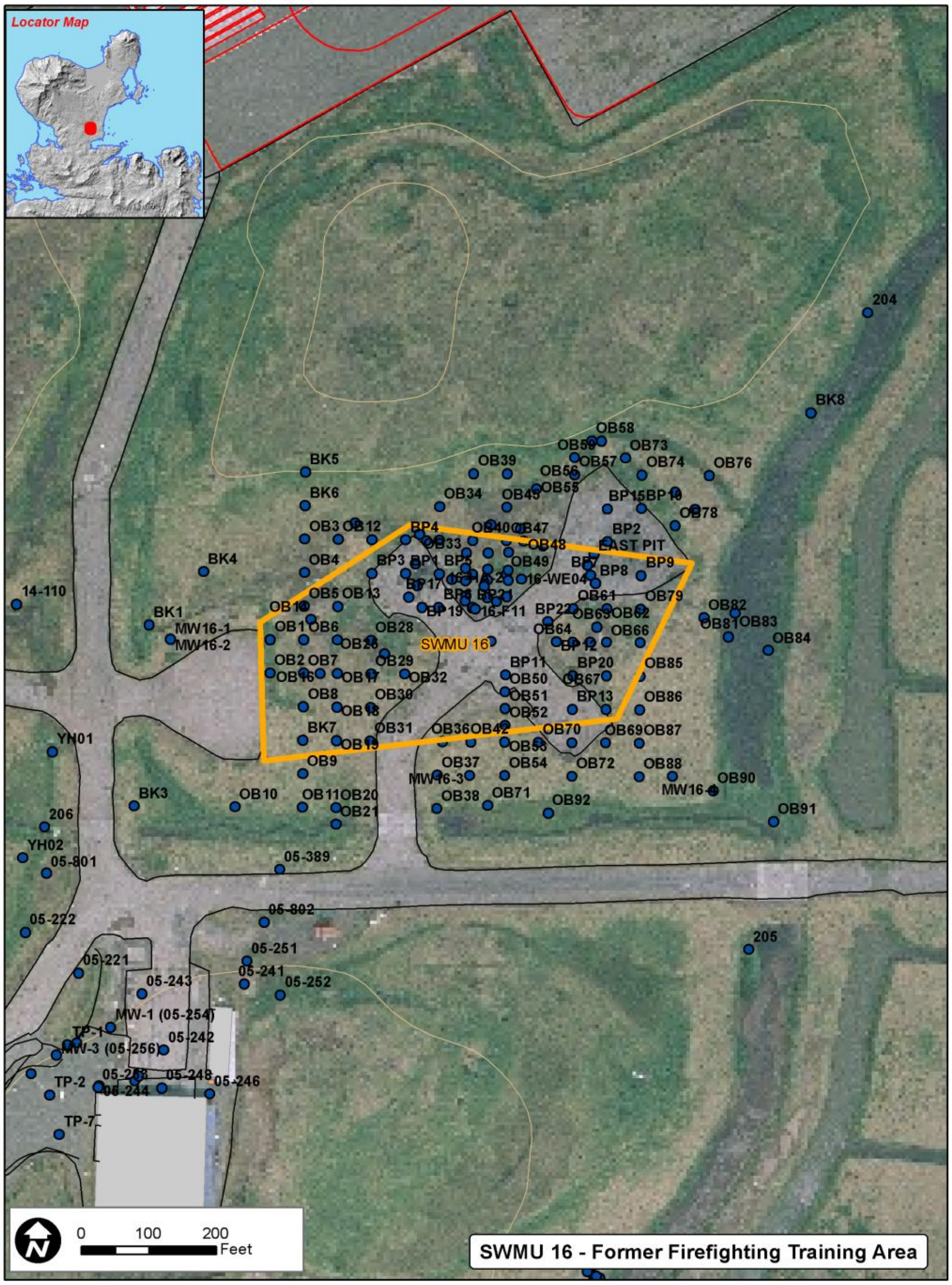
The site is currently used for storage of a crane, crab pots, commercial fishing equipment, fish processing equipment and numerous drums of POL. The POLs are contained in 55-gallon drums near the northwest corner of the site, on top of wooden pallets. Black oily staining is visible around this storage/staging area. An AST, several metals drums, and black stained soil were observed at the south end of the site near monitoring well MW15-424. ICs appear to be functioning as intended by the ROD. An Excavation Restriction sign was replaced in summer 2010.

The 2010 IC report recommended that site owners be notified to remove the onsite drums, pooled oil, affected soil, AST, and address housekeeping concerns. The City of Adak should be contacted to repair the water main break in the northwest corner of the site and the resulting sinkhole.

BIBLIOGRAPHY:

12, 13, 19, 65, 81, 84, 86, 90, 91, 113, 125, 129, 134

SWMU 16 - Former Firefighting Training Area — OU A



SWMU 16 - Former Firefighting Training Area OU A

STATUS: IC inspections.

BACKGROUND:

SWMU 16, the Former Firefighting Training Area, occupies approximately 4 acres between taxiways about 500 feet south of the west end of Runway 5-23. It is generally flat, with elevations ranging from 5 to 12 feet above MLLW.

From 1970 to 1989, firefighting training exercises were performed at this site. During these exercises, petroleum, waste oil, and solvents were floated on water within burn pits and repeatedly ignited and extinguished as part of the firefighting training. Three burn pits were constructed within the training area. The pits were constructed of soil berms on top of a concrete surface. It was estimated that 120 gallons of flammable liquid were used during each exercise. In 1985, 20,000 gallons of waste petroleum were reportedly disposed of at the site and apparently ignited for firefighting training. In 1989, ponded surface water was removed and soil from the burn pit berms was stockpiled prior to site investigation. These stockpiles were removed and treated in 1996.

Site investigations of the Former Firefighting Training Area were conducted between 1992 and 1997. As a result of these findings, the Navy conducted an interim removal in 1997 of soil near the concrete apron, which contained PCBs in excess of 1 mg/kg. Analytical results of sediment, surface and subsurface soil, and groundwater were used to assess human health and ecological risk in the PSE report for the site.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	128
Number of Pre-Rod Samples	323
Potential Contaminat Types Evaluated	Biological, Dioxins and furans, Herbicides, Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sediment , Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water, Tissue
Types of Pre-ROD Locations	Borehole/Soil boring, Excavation, Ground surface, Monitoring well, River/stream, Stockpile, Well

SWMU 16 - Former Firefighting Training Area — OU A

COCs AND RISKS:

The OU A ROD established the following risk driver for the site (Table 6-5 of the OU A ROD):

Groundwater

- Aroclor 1260

The ecological HI for the site was calculated at 70, which warranted further action. The risk driver was Aroclor 1260. Another risk evaluation that was based on post-removal conditions indicates that the human health cancer risk is 4E-05 (Table 6-5 of the OU A ROD), because of Aroclor 1260 in soil (based on a residential scenario). Aroclor 1260 was detected in only one of 35 samples and has not been detected since 1990. The ecological HI was reduced to 17 as a result of the removal action, which was determined to be acceptable. The three stockpiles or "hot spots" were removed, which was considered sufficient to mitigate ecological risk and reduce the RME concentration from 100 mg/kg to an HI of 70 to 1.5 mg/kg (HI of 17). The HI of 17 is not significantly higher than the generally accepted maximum of 10.

RAOs:

The OU A ROD for SWMU 16 established the following RAOs (interpreted from Table 7-2 and pg. 10-6 of the OU A ROD):

- Protect human health and ecological receptors from exposure to soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is ICs.

ICs were implemented in 2000 following execution of the OU A ROD. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including SWMU 16.

SWMU 16 - Former Firefighting Training Area — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection — Click to View ICMP Table
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date May 1997 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SWMU 16 - Former Firefighting Training Area — OU A

SUMMARY OF INSPECTION RESULTS:

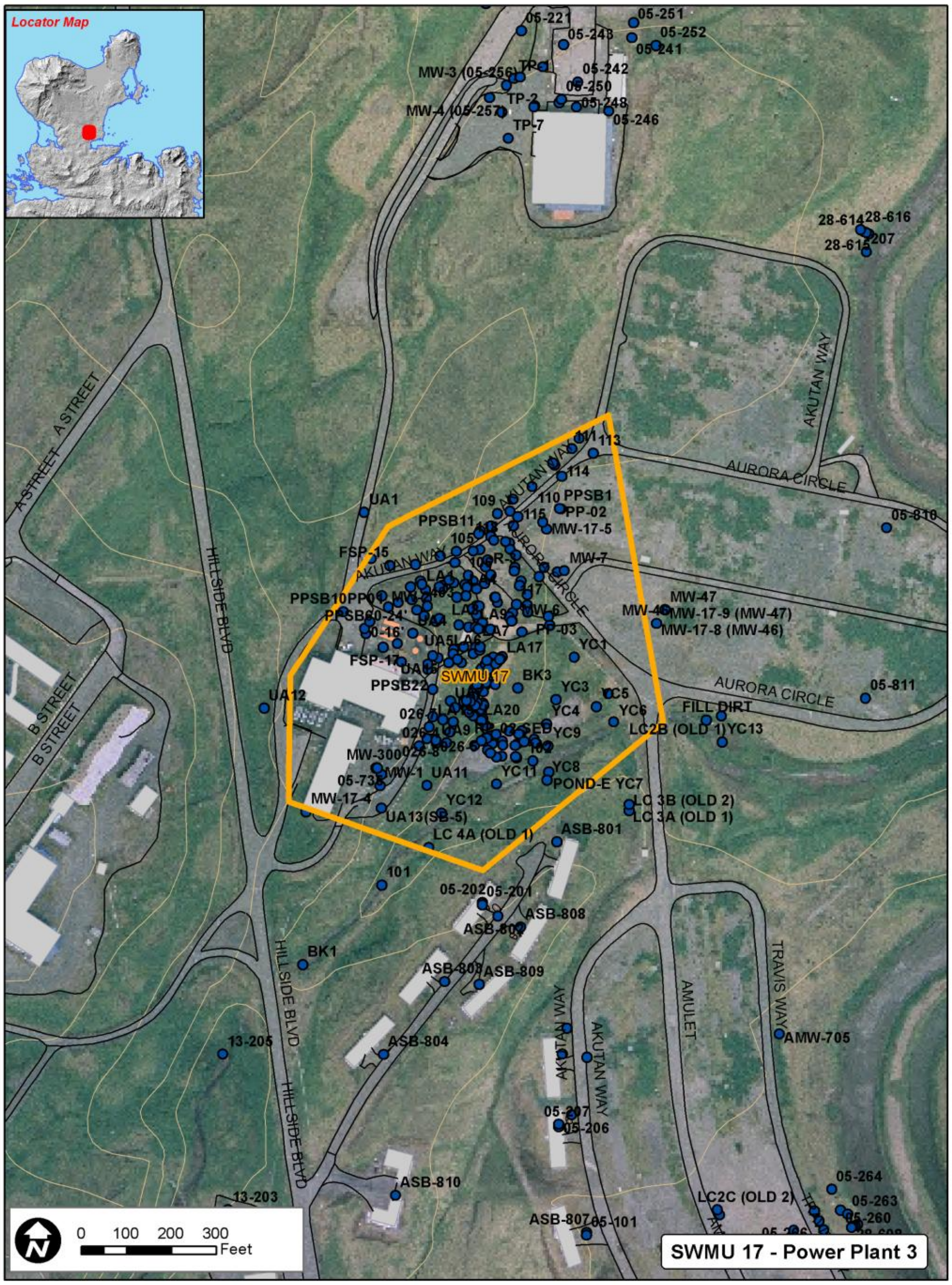
The inspection in September 2010 found that the site has had no apparent activity. No indications that groundwater was being used or indications of excavation activities were found. The site inspection conducted in August 2010 in support of the five-year review concurred with these findings.

BIBLIOGRAPHY:

12, 13, 62, 62, 65, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 17 - Power Plant 3 **OU A - SAERA**



SWMU 17 - Power Plant 3 OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

SWMU 17, the Power Plant 3 Area, is west of the downtown core area and Runway 18-36. SWMU 17 contains or contained a number of AOCs, including the waste oil pond, the north pond, the bulk storage waste oil tank, two oil/water separators, two temporary drum accumulation areas, the power plant tank farm, the seepage area along the slope below the power plant, a Quonset hut used previously for transformer storage, the dry cleaners, and stained areas within the ditches along both sides of Akutan Way.

Power Plant 3 became operational in 1950. Two of the ASTs stored JP-5, one stored waste oil, and the remaining two stored reserve oil supplies. The waste oil pond was constructed in the mid-1960s to contain waste POL generated at the plant. The Quonset hut has historically been used for electric line and transformer repairs and for auto repair. The dry-cleaning facility located south of the power plant began operation in 1968. The power plant continues to serve as the main electrical generating source on Adak. The other facilities at Power Plant 3, such as the dry cleaners and the Quonset hut, are not currently in use.

The two vertical ASTs (31018 and 31019) were reported to be cleaned and closed during 1998. One horizontal AST (31017) was reported to be removed at that time. The two remaining ASTs (31015 and 31016) remain in operation and contain JP-5 used to fuel the power plant.

Seeps of free product were observed along the roadside ditches in 1995. The Navy installed coffer dams within the trench to act as oil/water separators. Approximately 5,000 gallons of water and product were recovered from the trench by January 1996.

In October 1995, the Navy's Environmental/Safety Department observed that free product was entering the roadside ditches at Akutan Way and Amulet Way as the water table rose. Navy personnel placed absorbent booms in the ditches downgradient of the seeps as a temporary measure to prevent oil from entering the storm drain system and eventually reaching South Sweeper Creek. Temporary accumulation berms were constructed, which consisted of soil berms to catch the oil and underflow pipe outfalls to pass stormwater to catchbasins. Approximately 110 cubic yards of stained soil was removed from the ditches downgradient of the berms in October 1995 to prevent potential migration of petroleum with stormwater.

During the summer of 1996, a product recovery trench was constructed at the intersection of Amulet Way and Akutan Way. During the construction of the recovery trench, much of the stained surface soil in the ditches was excavated.

As part of the CERCLA investigation for the site, analytical results of sediment, surface and subsurface soil, groundwater, and surface water were used to assess human health and ecological risk in the PSE report for the site. Freshwater sediments and surface water presented potential adverse risk to ecological receptors. Sediments in the waste oil pond (and adjacent surface soil) and the retention pond, which contain inorganics, SVOCs, and PCB compounds, expose benthic fauna to adverse risk. Surface water in the retention pond presents adverse risk to birds. The human health cancer risk and the noncancer HI based on the residential scenario were 4E-04 and 45 respectively. The primary cancer risk drivers were Aroclor

1260, arsenic, and beryllium in surface water and Aroclor 1254 and beryllium in groundwater. The primary noncancer risk drivers were various inorganics in surface water and groundwater.

As part of the SAERA investigation for the site under the OU A ROD, the petroleum issues were addressed. Free product was detected in 7 of 18 wells. The maximum DRO concentration in surface soil was 220,000 mg/kg, which exceeds the ROD-established soil cleanup levels (18 AAC 75.340) of 8,250 mg/kg for industrial sites. The maximum DRO concentration in subsurface soil was 71,000 mg/kg, which exceeds the ROD-established soil cleanup level (18 AAC 75.340) of 12,500 mg/kg for industrial sites. SVOCs in groundwater from one location and xylene in surface water from one location exceeded ROD-established cleanup levels (18 AAC 75.345).

In 1999, oil/water separators O/W1 and O/W2 were removed and their inflows were rerouted directly to the sanitary sewer system. Also in 1999, contaminated soils in the waste oil pond and water retention pond were removed and treated by thermal desorption on-island. In 2000, the existing free-product recovery trench was re-designed and upgraded to improve product recovery rates. In addition, another interim remedial action to eliminate free-product seeps at the ground surface was completed in 2002.

A subsurface investigation (including completion of soil borings and installation of monitoring wells) was undertaken in summer 2001 at SWMU 17 to characterize contamination that may have originated from the power plant.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	277
Number of Pre-Rod Samples	640
Potential Contaminat Types Evaluated	Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Debris/rubble, Ground water, Product (floating or free), Sediment , Sludge, Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water, Water (not groundwater, unspecified)
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Excavation, Ground surface, Holding pond/Lagoon, Indoors, Lake/pond/open reservoir, Monitoring well, River/stream, Sump, Test Pit, Well

COCs AND RISKS:

SWMU 17 was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The petroleum interim action under the OU A ROD was free product recovery. The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (pg 10-9, Table 10-3, and interpreted from table 5-11 of the OU A ROD):

Groundwater

- Bis(2-ethylhexyl)phthalate
- DRO
- Methylene chloride
- Tetrachloroethene

Sediment

- 2-Methylnaphthalene
- Acenaphthene
- Antimony
- Aroclor 1254
- Aroclor 1260
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(k)fluoranthene
- Bis(2-ethylhexyl)phthalate
- Chrysene
- Ethylbenzene
- Fluoranthene
- Fluorene
- Lead
- Manganese
- Mercury
- Nickel
- Phenanthrene
- Pyrene
- Zinc

Surface water

- Copper
- Iron
- Lead
- Mercury
- Zinc

The 2006 SWMU 17 Decision Document prepared under SAERA as a follow-on to the OU A ROD established cleanup levels based on ADEC regulatory criteria for the following COCs:

Groundwater

- 2-Methylnaphthalene
- Benzene
- Benzo(a)pyrene
- DRO
- Ethylbenzene
- GRO
- Naphthalene
- Toluene
- Total Xylenes

RAOs:

The OU A ROD for SWMU 17 established the following original RAOs (interpreted from Table 7-3 and pg. 10-9, and Table 7-4 of the OU A ROD):

- Prevent uptake of and contact with impacted freshwater sediments by benthic infauna and impacted surface water by birds.
- Reduce the volume of free product.

The RAOs were revised in the 2006 SWMU 17 Decision Document to the following:

- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the Alaska DEC groundwater cleanup levels established for groundwater not currently used for, or not reasonably expected to be used for, drinking water.
- Minimize exposure to free-phase product.

Based on additional sediment sampling in Yakutat Creek in 2005 (after execution of the OU A ROD), the ecological risk assessment was updated. As a result of this risk assessment update, no RAOs were found to be necessary for freshwater sediment.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is sediment removal from the waste oil and retention ponds, free product recovery, groundwater monitoring and ICs. The OU A ROD states that the remedy was implemented in 1999 with the approval of the regulatory agencies (see background section for more details of the removal).

Free product recovery at this site was conducted between October 1996 and July 2002 through a combination of passive skimmers installed in site wells and a dual-trench product recovery system. Free-product recovery efforts were discontinued in July 2002 when recovery met the technical practicable endpoint established in the OU A ROD for shutdown of product recovery systems that are dependent on water table depression to facilitate product recovery.

The 2006 decision document prepared under SAERA selected the final remedy of MNA and ICs.

SWMU 17 - Power Plant 3 | **OU A - SAERA**

OPERATIONS, MAINTENANCE, AND MONITORING:

Free product recovery was discontinued in June 2010.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection — **Click to View ICMP Table**
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled DRO, PCE and daughter products, NAPs, product thickness

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** SWMU17_MonCurr.pdf

SWMU 17 - Power Plant 3 — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-375	MNA, SW protection	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, and NAPs	
2002	GRO, BTEX, DRO, RRO, VOCs, SVOCs, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	DRO	
2008	DRO (even years only)	
2009	Product thickness, NAPs	
2010	DRO	

SWMU 17 - Power Plant 3 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-735	Compliance	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	VOCs, SVOCs
2002	VOCs, SVOC, NAPs
2003	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2004	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2005	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2006	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride
2007	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride
2008	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride
2009	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride
2010	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-810	SW protection	Groundwater

1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs
2002	GRO, BTEX, VOCs, SVOCs, NAPs
2003	DRO, GRO, BTEX, NAPs
2004	DRO, GRO, BTEX
2005	DRO, GRO, BTEX
2006	DRO, GRO, BTEX
2007	Not included in final remedy, monitoring discontinued

SWMU 17 - Power Plant 3 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-811	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, VOCs, SVOCs, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	Not included in final remedy, monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-815	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, VOCs, SVOCs, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	Not included in final remedy, monitoring discontinued	

SWMU 17 - Power Plant 3 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HC-1	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HC-2	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Free product detected, not sampled, product thickness
2008	DRO, product thickness (monthly)
2009	DRO, NAPs, product thickness (monthly)
2010	DRO, product thickness (monthly)

SWMU 17 - Power Plant 3 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HC-3	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	VOCs, SVOCs, NAPs	
2003	Monitoring discontinued	
2007	DRO	
2008	DRO	
2009	DRO, NAPs	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
PP-05	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Free product detected, not sampled	
2008	Free product detected, not sampled, product thickness (monthly)	
2009	DRO, NAPs, product thickness (monthly)	
2010	DRO, product thickness (monthly)	

SWMU 17 - Power Plant 3 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
R-1	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	DRO, RRO, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2004	DRO, RRO, bis(2-ethylhexyl)phthalate
2005	DRO, RRO, bis(2-ethylhexyl)phthalate
2006	DRO
2007	DRO
2008	DRO (even years only)
2009	Product thickness, NAPs
2010	DRO

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
R-2	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	DRO
2008	DRO (even years only)
2009	Product thickness, NAPs
2010	DRO

SWMU 17 - Power Plant 3 — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
R-3	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
R-4	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Product thickness
2008	Monitoring not planned
2009	Monitoring not planned
2010	Monitoring not planned

SWMU 17 - Power Plant 3 OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
R-5	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	DRO	
2008	DRO	
2009	DRO, NAPs	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
R-6	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	VOCs, SVOCs	
2002	Monitoring not planned	
2003	DRO, RRO, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate	
2004	DRO, RRO, bis(2-ethylhexyl)phthalate	
2005	DRO, RRO, bis(2-ethylhexyl)phthalate	
2006	Free product detected, not sampled	
2007	DRO	
2008	DRO	
2009	DRO, NAPs	
2010	DRO	

SUMMARY OF INSPECTION RESULTS:

Annual inspections report ICs are functioning as intended. Since 2007, soil staining below a waste oil AST adjacent to the power plant has been identified.

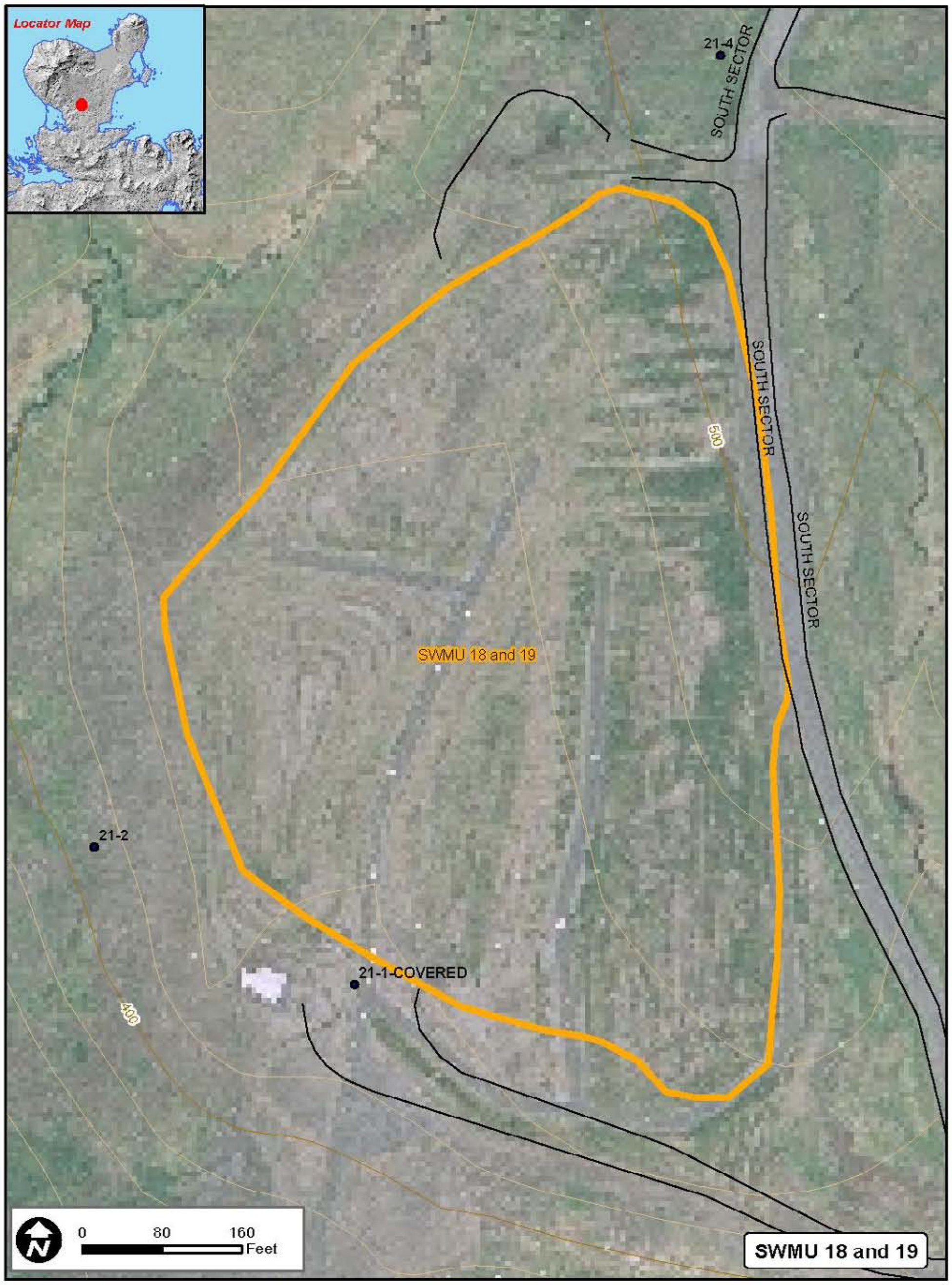
Currently Power Plant 3 is in operation to supply power to the city of Adak.

The 2010 IC report identified crushed oil-stained soil beneath crushed drums stored on site and near the former AST location on the east side of the power plant buildings. The report recommended the crushed drums and transformers stored onsite be properly disposed of and the oil-stained soil be excavated beneath the former AST location and crushed drums.

BIBLIOGRAPHY:

50, 58, 62, 65, 81, 84, 86, 90, 91, 113, 123, 125, 129, 134

SWMU 18 - 19 - Disposal Areas OU A



SWMU 18 - 19 - Disposal Areas — OU A

STATUS: Groundwater and surface water monitoring, landfill monitoring, and IC inspections.

BACKGROUND:

SWMU 18, the South Sector Drum Disposal Area, was located at the base of an abandoned quarry located west of the downtown area. Approximately twenty 55-gallon drums were disposed of on low-lying tundra. The drums were heavily rusted and were most likely deposited during the 1940s. There is no information on the contents of the drums or any other history available.

SWMU 19, Quarry Metal Disposal Area, was a small scrap metal disposal area located in the abandoned quarry west of the downtown. Scrap metal, including material from demolition of Quonset huts, has been placed on the floor of the quarry. The disposal area was active from 1980 to 1985. No information was available on the history of any contaminant releases at the site.

SWMU 18, together with SWMU 19, became White Alice Landfill, which received construction wastes in the 1990s until it was covered with soil and closed according to Alaska solid waste regulations in 1998.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	5
Number of Pre-Rod Samples	39
Potential Contaminat Types Evaluated	Inorganics, Metals, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Surface water
Types of Pre-ROD Locations	Lake/pond/open reservoir, Monitoring well, River/stream

SWMU 18 - 19 - Disposal Areas OU A

COCs AND RISKS:

The OU A ROD selected the capping of SWMU 18 and 19 as a final action. The selected remedy complied with 18 AAC 60 and the permit requirements for closure of the site.

RAOs:

The OU A ROD for SWMU 18 and19 did not establish an explicit RAO but listed the following requirement:

- Keep landfill cover intact.

REMEDY IMPLEMENTATION:

These SWMUs were combined into White Alice Landfill, which was closed in 1997 according to Alaska State regulations. Closure entailed placing a soil cover over the landfill, grading and contouring, surface water/erosion controls, access restrictions, and installing a vegetative cover per Alaska solid waste landfill closure requirements. Annual monitoring is currently being conducted as a provision of the closure and post-closure plans. ICs include land use and restrictions, as well as excavation prohibition.

SWMU 18 - 19 - Disposal Areas OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☑	Groundwater Monitoring	☐	Landfill Inspection	
☑	Surface Water Monitoring	☑	IC Inspection	Click to View ICMP Table
☐	Sediment Monitoring	☐	Remediation System Monitoring and Maintenance	
☐	Tissue Monitoring	☐	None Required	

Most Recent Sampling Date August 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater, surface water

Current Analytes Sampled Total 13 priority pollutant metals, dissolved 13 priority pollutant metals, total Ba, dissolved Ba, alkalinity, COD, sulfate, TDS, TKN, ammonia nitrogen

Current Monitoring Click to View Current Monitoring **Monitoring File:** SWMU1819_MonCurr.pdf

SWMU 18 - 19 - Disposal Areas OU A

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
21-3	Post closure monitoring	Groundwater
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN, DIN	
2003	VOCs, TIN, DIN	
2004	TIN, DIN	
2005	Monitoring not planned	
2006	VOCs, TIN, DIN	
2007	Monitoring not planned	
2008	VOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	TIN, DIN, total and dissolved barium	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
21-4	Post closure monitoring	Groundwater
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN, DIN	
2003	VOCs, TIN, DIN	
2004	TIN, DIN	
2005	Monitoring not planned	
2006	VOCs, TIN, DIN	
2007	Monitoring not planned	
2008	VOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	TIN, DIN, total and dissolved barium	

SWMU 18 - 19 - Disposal Areas OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
WASW01	Post closure monitoring	Surface water
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN, DIN	
2003	VOCs, TIN, DIN	
2004	TIN, DIN	
2005	Monitoring not planned	
2006	VOCs, TIN, DIN	
2007	Monitoring not planned	
2008	VOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	TIN, DIN, total and dissolved barium	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
WASW02	Post closure monitoring	Surface water
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN, DIN	
2003	VOCs, TIN, DIN	
2004	TIN, DIN	
2005	Monitoring not planned	
2006	VOCs, TIN, DIN	
2007	Monitoring not planned	
2008	VOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	TIN, DIN, total and dissolved barium	

SWMU 18 - 19 - Disposal Areas OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
WASW03	Post closure monitoring	Surface water
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN, DIN	
2003	VOCs, TIN, DIN	
2004	TIN, DIN	
2005	Monitoring not planned	
2006	VOCs, TIN, DIN	
2007	Monitoring not planned	
2008	VOCs, TIN, DIN, total and dissolved barium	
2009	Monitoring not planned	
2010	TIN, DIN, total and dissolved barium	

SUMMARY OF INSPECTION RESULTS:

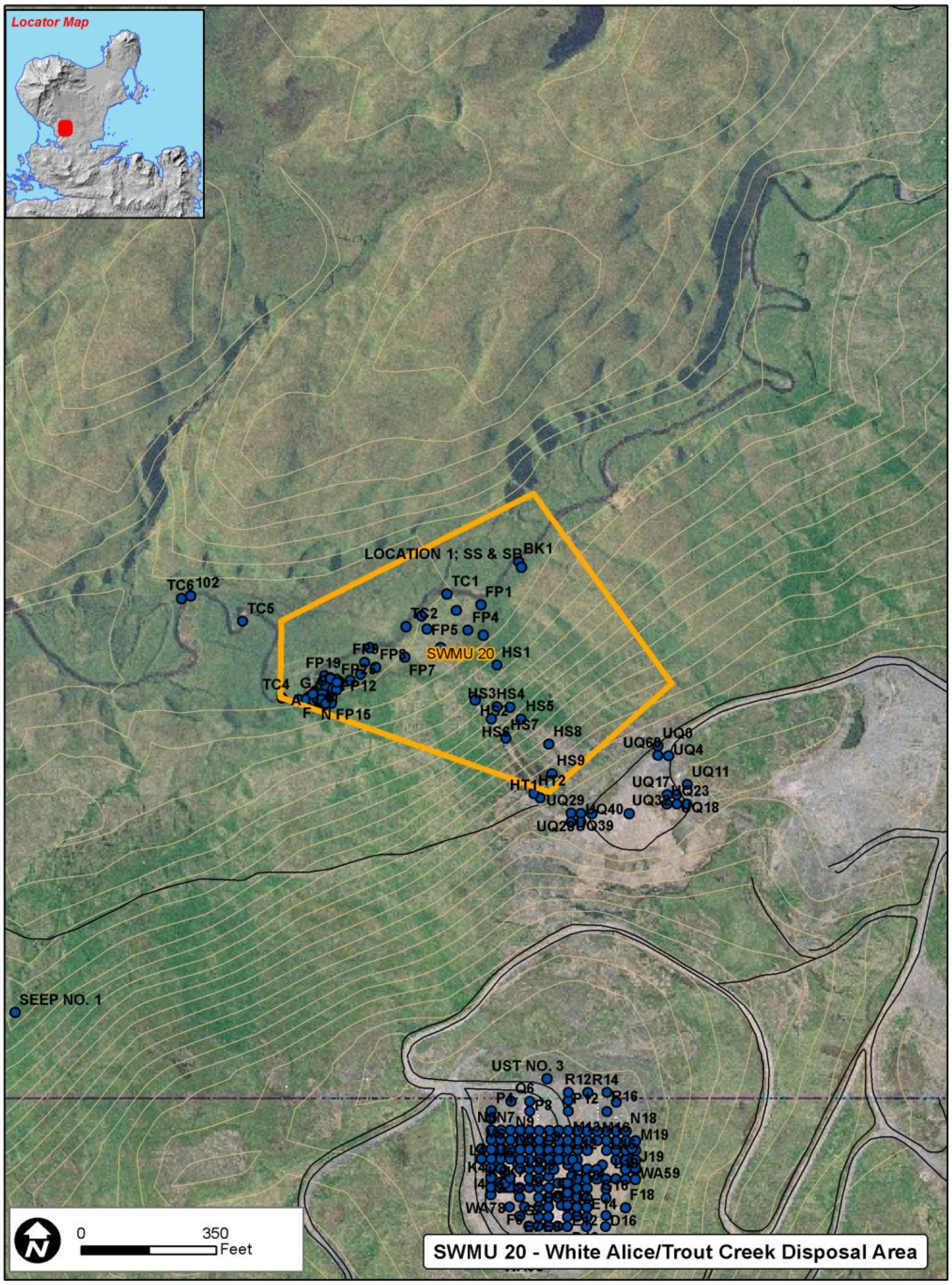
The 2009 IC inspection report identified sections of damaged fencing around the perimeter as well as areas of erosion near the southwest corner of the site and along the southern fenceline, and washout areas in the northwest and northeast corners of the site.

The 2010 inspection report identified repairs were made to damaged fencing noted during 2009 and recommended two bare areas be reseeded, vegetation be removed from the northeastern drainage swale, and the surface water pathway outside the northern landfill boundary be modified to reduce ponding.

BIBLIOGRAPHY:

29, 30, 31, 39, 44, 65, 84, 86, 127, 125, 129, 135

SWMU 20 - White Alice/Trout Creek Disposal Area OU A



SWMU 20 - White Alice/Trout Creek Disposal Area OU A

STATUS: IC inspections.

BACKGROUND:

SWMU 20, the White Alice/Trout Creek Disposal Area, is located approximately 2 miles west of the downtown area. SWMU 20 consists of two distinct topographic environments: (1) a steep (50 percent grade) northwest-facing hillside, approximately 200 feet wide and 500 feet long, which is covered with native vegetation and debris; and (2) a portion of the heavily vegetated, marshy Trout Creek floodplain, at the base of the hillside, which extends approximately 1,000 feet downstream. Trout Creek, a salmon-spawning habitat, meanders southwesterly through the bottom of the valley and eventually discharges to Shagak Bay, approximately 1 mile to the west.

The White Alice Complex was constructed in 1956 as part of a military communications network. The complex was dismantled between 1980 and 1982. An initial assessment study conducted in 1986 determined that material from the demolition of the White Alice Complex may have been deposited at the Trout Creek and White Alice Quarry areas. During the demolition, a contractor allegedly disposed of approximately 2,000 gallons of PCB-containing fluids in 55-gallon drums from 51 transformers at SWMU 20. No documented evidence exists to support this allegation. It is not known whether the Trout Creek area was used for waste disposal prior to 1980.

Approximately one hundred 55 gallon drums, some of which may have contained PCB-containing fluids, together with other debris, were removed from SWMU 20 in 1992. PCB-containing soil was excavated and disposed of off site in 1992. Based on the results of previous investigations, PCBs and inorganics are the principal COCs at this site.

Analytical results of sediment, surface and subsurface soil, surface water, and fish tissue were used to assess human health and ecological risk in the PSE report for the site.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	98
Number of Pre-Rod Samples	192
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Product (floating or free), Sediment , Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water
Types of Pre-ROD Locations	Borehole/Soil boring, Drum/Container contents, Ground surface, River/stream, Wetlands

SWMU 20 - White Alice/Trout Creek Disposal Area OU A

COCs AND RISKS:

The OU A ROD identified the following risk driver (Table 6-5 of the OU A ROD):

Soil

- Aroclor 1260

Analytical results of sediment, surface and subsurface soil, surface water, and fish tissue were used to assess human health and ecological risk in the PSE report for the site. The human health cancer risk was calculated as 2E-05. The risk driver is Aroclor 1260 in surface soil. The noncancer HI and other human health scenarios were below levels of concern Tables 6-4 and 6-5 of the OU A ROD). The ecological HI is 231, which is significantly higher than the target HI of 10. The primary ecological risk drivers are Aroclor 1260 in the surface and subsurface soil and silver in the surface water (Tables 6-6 and 6-7 of the OU A ROD) . The ecological risk was explained as acceptable, based on the fact that the area of contamination is small (720 square feet) compared to the habitat area of the species that inhabit the area. Nearly all of the HI is associated with Aroclor 1260 (31 in soil, 110 in subsurface soil, 29 in surface water). Aroclor detections are limited to the areal extent of the 1992 drum and soil removal. The risks associated with this area were overestimated, as they assumed that an ecological receptor would frequent only this small portion of the site. Based on the small area impacted by PCBs relative to the range of potential ecological receptors, the cumulative risks calculated for ecological receptors were overestimated. Furthermore, since the depth to groundwater is only 0.5 foot the likelihood of burrowing animals encountering impacted subsurface soil was low.

RAOs:

The OU A ROD for the CERCLA site SWMU 20 (White Alice/Trout Creek Disposal Area) established the following RAOs for SWMU 20 (interpreted from Table 7-2 and pg. 10-6 of the OU A ROD):

- Protect human health and ecological receptors from exposure to soil.

REMEDY IMPLEMENTATION:

The remedy selected in the OU A ROD for this site is ICs. The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 20.

SWMU 20 - White Alice/Trout Creek Disposal Area OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection **Click to View ICMP Table**
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date July 1995 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SWMU 20 - White Alice/Trout Creek Disposal Area OU A

SUMMARY OF INSPECTION RESULTS:

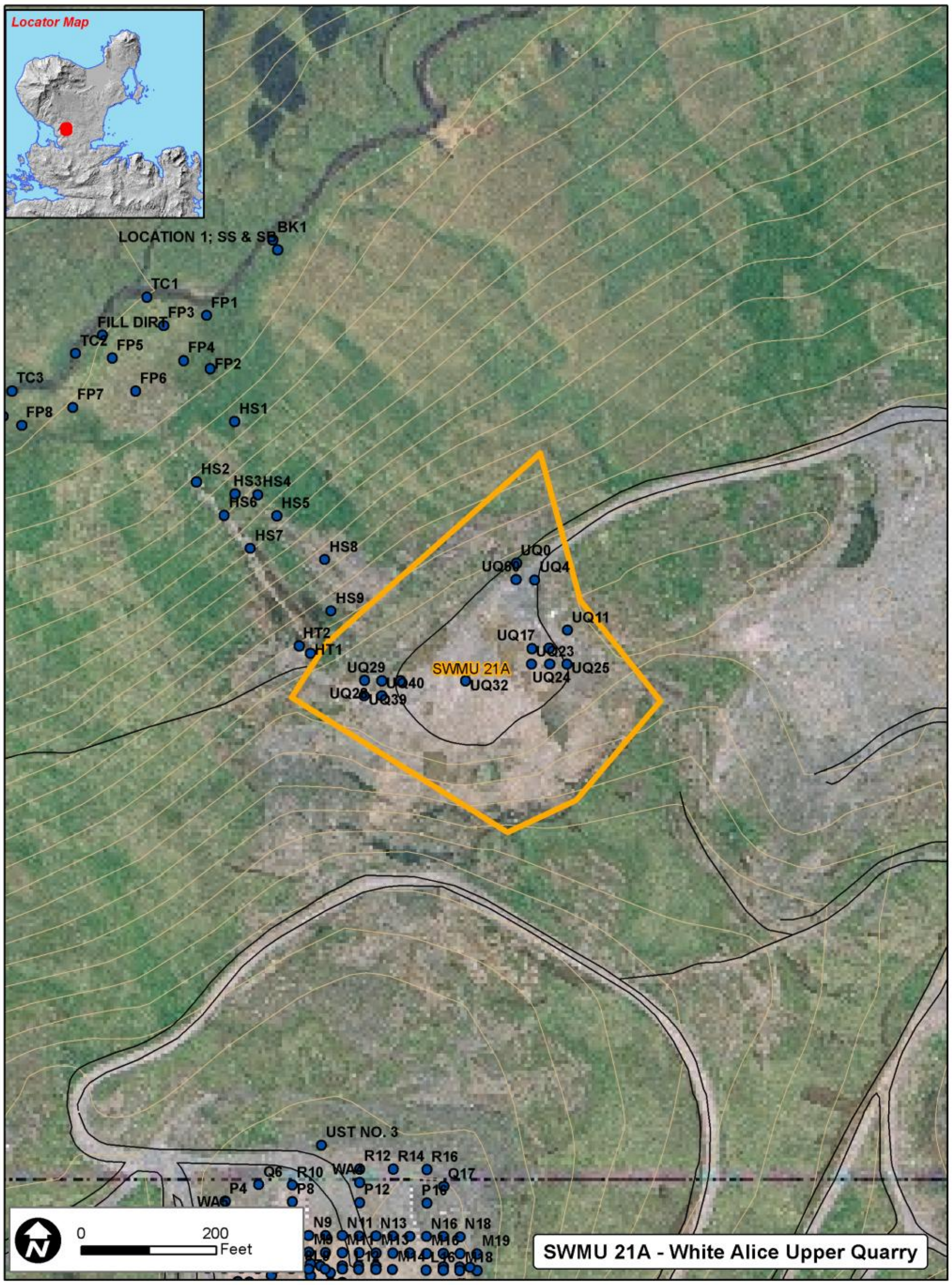
During the 2009 ICs inspection it was noted that the cliff face appears to be eroded, signage was missing or damaged, and metal and wood debris were eroding out of the hillside. In 2010, a Navy contractor made repairs at the site based on findings during the 2009 IC inspections.

The 2010 IC inspection report made no further recommendations and indicated ICs appear to be functioning as intended.

BIBLIOGRAPHY:

13, 19, 65, 73, 84, 86, 113, 125, 129

SWMU 21A - White Alice Upper Quarry OU A



SWMU 21A - White Alice Upper Quarry OU A

STATUS: IC inspections.

BACKGROUND:

SWMU 21A, the White Alice Upper Quarry, is an abandoned quarry located approximately 2 miles west of the downtown area.

The White Alice Complex was constructed in 1956 as part of a military communications network, which was dismantled between 1980 and 1982. The White Alice Quarry Disposal Area was originally the site of a series of borrow pits that supplied foundation materials used during road and building construction. SWMU 21A was used as a disposal area between 1980 and 1982.

Historical information does not clearly define what wastes were disposed of at SWMU 21A. During demolition activities (1980 to 1982), the demolition contractor drained fluids containing PCBs from 51 transformers into 55-gallon drums before removing electrical equipment to an off-site location. Disposal of the estimated 2,000 gallons of transformer oil was never documented; however, SWMU 21A is a possible disposal site.

Surficial soils containing PCBs were identified at the site during the site inspection. Surficial soils that contained PCB concentrations greater than 10 mg/kg were excavated and removed in 1992. A 2,000- to 3,000-square-foot synthetic membrane (20 mil thick) was installed over areas where the highest PCB concentrations were detected in confirmation samples. The liner was covered with a minimum of 12 inches of clean fill.

Analytical results of soil samples were used to assess human health and ecological risk.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	99
Number of Pre-Rod Samples	172
Potential Contaminat Types Evaluated	Pesticides and aroclors
Pre-ROD Sample Matrix Types	Soil, Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Ground surface, Lake/pond/open reservoir

SWMU 21A - White Alice Upper Quarry OU A

COCs AND RISKS:

The OU A ROD identified the following risk driver for this site (Table 6-5 of the OU A ROD):

Soil

- Aroclor 1260

The human health residential cancer risk was calculated as 1.4 E-05 (Tables 6-4 and 6-5 of the OU A ROD). The noncancer HI and other human health scenarios were below levels of concern. The ecological HI is 28 because of Aroclor 1260 in the soil (Tables 6-6 and 6-7 of OU A ROD). This ecological risk is not significant because the soil causing the risk has been covered with a synthetic membrane and at least 12 inches of clean fill.

RAOs:

The OU A ROD for SWMU 21A established the following RAOs (interpreted from Table 7-2 and pg. 10-6 of the OU A ROD):

- Protect human health and ecological receptors from exposure to soil.

REMEDY IMPLEMENTATION:

The OU A ROD specified remedy was implementation of ICs. The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. IC inspections, including inspection to ensure the integrity of the synthetic liner, are required under the ICMP.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 21A.

SWMU 21A - White Alice Upper Quarry — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date November 1992 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SWMU 21A - White Alice Upper Quarry OU A

SUMMARY OF INSPECTION RESULTS:

The inspection in September 2009 found that the site has had no apparent activity and that ICs are functioning as intended.

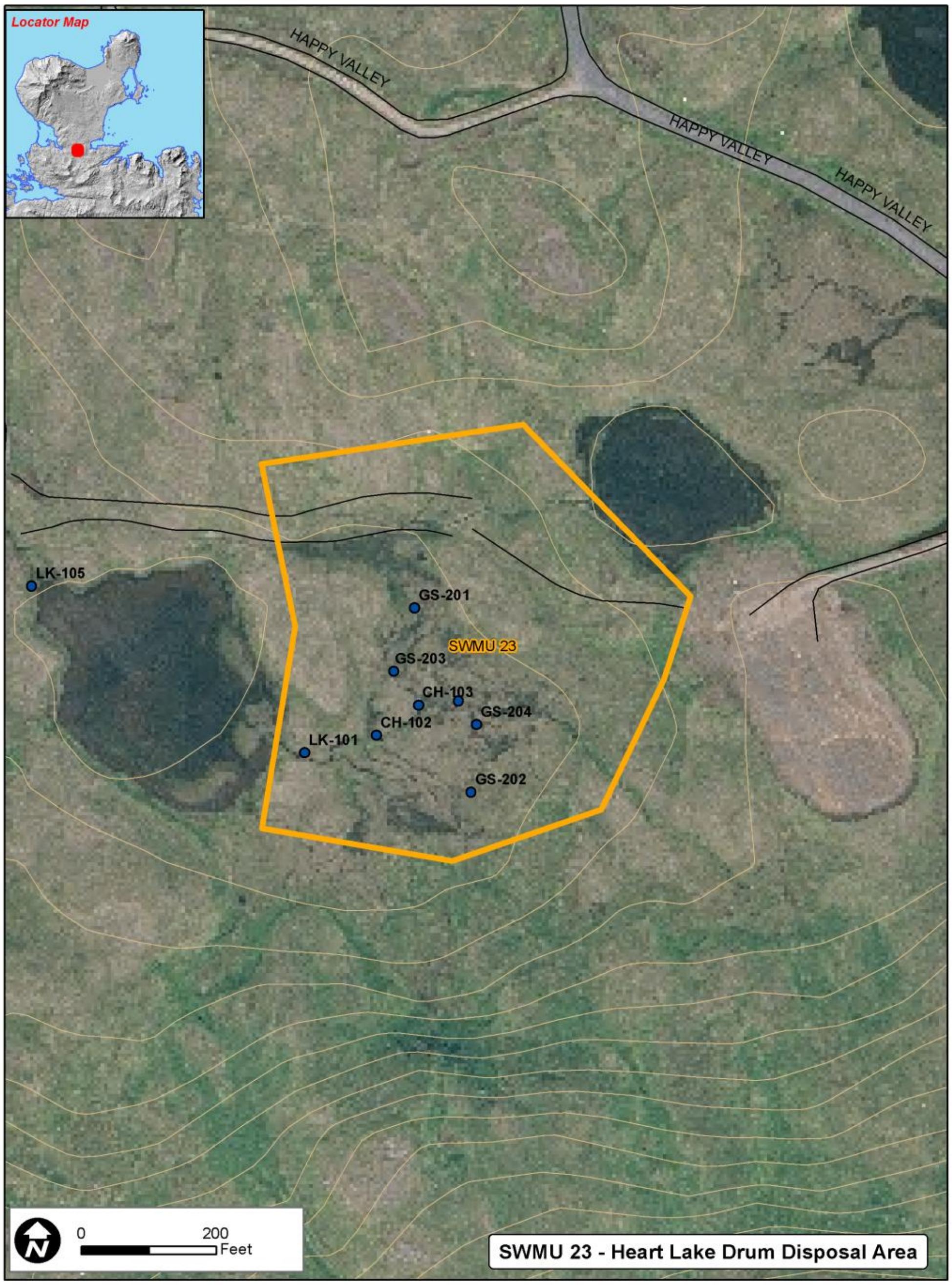
The five-year review inspection in August 2010 found that some authorized quarry activity had occurred at SWMU 21A to fix erosion issues at adjacent SWMU 20. ICs appear to be functioning as intended.

BIBLIOGRAPHY:

13, 19, 73, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 23 - Heart Lake Drum Disposal Area **OU A**



SWMU 23 - Heart Lake Drum Disposal Area — OU A

STATUS: IC inspections.

BACKGROUND:

SWMU 23, the Heart Lake Drum Disposal Area, lies approximately 0.4 mile southeast of Heart Lake and approximately 2 miles southwest of downtown Adak. A small 1-acre lake (referred to in investigation records as Lake B) just northeast of the site discharges through the drum disposal area to a small stream. This stream discharges west to a small 2.3-acre unnamed lake (referred to as Lake A), which is adjacent to the west side of the site. This lake discharges to Heart Lake, which discharges to Shagak Bay.

The Heart Lake Drum Disposal Area, at a grade of approximately 15 percent, covers approximately 8 acres of a valley floor that trends southwest toward Lake A. The site ranges south from 260 feet above MLLW near the access road and hillsides to 205 feet above MLLW on the valley floor. The entire site is covered by tundra vegetation (lichen, grasses, and mosses). The soil is primarily silt with some sand and unconsolidated rock on the upper elevations.

The Heart Lake Drum Disposal Area was reportedly used for the disposal of approximately twenty 55-gallon drums over a period of three years during the 1940s. Estimates of the areal extent of the site range from 1 to 8 acres. During a site visit in 1993, drums were observed scattered over the site, with 15 to 18 drums grouped in a drainage ditch downstream of Lake B at the northeast edge of the site. The drums were described in an earlier study as empty, with any residual contents they may have contained at the time of disposal released prior to this inspection. One large tank (approximately 1,500 gallons) was also observed at the site. The nature of previous drum and tank contents is unknown. The drums may have contained fuels, POL, paints, solvents (chlorinated or nonchlorinated), pesticides, or other drummed products typically used on Adak Island during World War II.

In the course of the removal of the drums during summer 1994, it was observed that most of the drums had neither tops nor bottoms and were in a narrow surface water drainage (2 feet wide by 3 feet deep) that drains from Lake B into Lake A. It is likely that these drums were originally placed for drainage control, a practice that has been noted at other areas on Adak Island, such as SWMUs 3 and 30. Other drums found on the site were whole and may have contained chemicals. An attempt was made to remove a few of the more visible drums scattered across the valley. Two drums removed from the steep southern hillside of the valley had intact tops and bottoms with a few rust holes and, although empty, had dark staining and a petroleum/fuel odor.

Analytical results of sediment samples were used to assess human health and ecological risk.

SWMU 23 - Heart Lake Drum Disposal Area — OU A

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	9
Number of Pre-Rod Samples	14
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Sediment , Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Channel/Ditch, Ground surface, Lake/pond/open reservoir, Wetlands

COCs AND RISKS:

The following risk drivers were identified in the OU A ROD (Table 6-5 of the OU A ROD):

Soil

- Arsenic
- Manganese

The human health cancer risk and the noncancer HI for the Adak residential scenario were calculated as 1E-05 and 7, respectively (Tables 6-4 and 6-5 of the OU A ROD). It is likely that the presence of arsenic is due to natural causes, since the maximum detected value of 10 mg/kg is well below the maximum background value of 80 mg/kg. The cancer risks based on other human health scenarios were below levels of concern. Ecological HIs from exposure primarily to manganese in soil and sediment were estimated at 92 and 51, respectively (Tables 6-6 and 6-7 of the OU A ROD). However, the ecological risks are not significant, because the samples containing the highest manganese concentrations were collected from two small areas (less than 1 square yard) where metal debris rusted.

RAOs:

The OU A ROD for SWMU 23 established the following RAOs (interpreted from Table 7-2 and pg. 10-6 of the OU A ROD):

- Protect ecological exposure to sediments.
- Protect human health and ecological receptors from exposure to soil.

SWMU 23 - Heart Lake Drum Disposal Area — OU A

REMEDY IMPLEMENTATION:

The OU A ROD specified remedy is ICs. The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 23.

SWMU 23 - Heart Lake Drum Disposal Area — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date June 1996 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity and that ICs are functioning as intended. The August 2010 inspection conducted in support of the five-year review confirmed these findings.

BIBLIOGRAPHY:

13, 15, 19, 73, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 24 - Hazardous Waste Storage Facility **OU A**

SWMU 24 - Hazardous Waste Storage Facility OU A

STATUS: IC inspections.

BACKGROUND:

The HWSF was located south of the Public Works Road and east of Building T-1443. The site was operated as a container storage area from 1980 to 1994. The entire perimeter of the HWSF is fenced, with access through a locked gate at the western end of the compound. The storage capacity was cited in the permit submittals as 20,000 gallons of pre-containerized waste. The only structure at the HWSF is Building 30006, which was used to store, categorize, sort and label wastes. The building is located at the eastern end of the paved yard.

The dimensions of the HWSF are approximately 300 by 55 feet. The entire surface area of the compound, with the exception of Building 30006, is covered by asphalt pavement approximately 4 inches thick. Outside the paved, fenced area at the western end are two asphalt pads. The pad on the southwestern corner was used to store unknown materials awaiting analytical results for classification. The emergency response equipment trailer occupied the pad on the northwestern side. Building 30006 has a curbed concrete pad foundation with dimensions of 25 by 40 feet. An internal concrete berm was used to separate the PCB storage area from other storage areas.

The OU A ROD documents that this site was investigated under RCRA and SAERA. Waste containers were estimated to have been removed in 1995. RCRA closure was completed in 1995. Specifically, (1) Building 30006 was decontaminated using odorless kerosene, and confirmation field and laboratory samples were collected and analyzed; (2) PCB-contaminated asphalt was removed, and confirmation samples were collected from the limits of the removal area and analyzed; (3) Four soil borings were completed, and subsurface soil samples were collected and analyzed; (4) Two drainage ditch sediment samples were collected and analyzed; and (5) IDW was sampled and analyzed and arrangements were made for its disposal. All final samples from Building 30006 and from areas surrounding the asphalt removal location showed PCB results below TSCA action levels. Building 30006 was therefore cleaned, and the contaminated asphalt section removed, to satisfy the objectives stated in the RCRA closure plan.

Analytical results for samples collected in the four soil borings showed only one sample with a detectable concentration of PCE. The PCE concentration and those of all other analytes were below EPA Region 10 risk-based screening concentrations for VOCs and the action level in the RCRA closure plan. Detectable concentrations of PCE were found in the upper 2 feet of soils but were found not to have migrated laterally from potential source areas at the HWSF. The soil borings confirmed that PCE has not migrated off site vertically or horizontally. A variety of analytes were detected in the drainage ditch sediment samples. However, all concentrations were below the action levels established in the RCRA closure plan.

SWMU 24 - Hazardous Waste Storage Facility — OU A

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	87
Number of Pre-Rod Samples	160
Potential Contaminat Types Evaluated	Dioxins and furans, Herbicides, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Debris/rubble, Product (floating or free), Sediment , Soil, Sub-surface soil (> 6"), Water (not groundwater, unspecified)
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Direct Push/Geoprobe, Drum/Container contents, Ground surface, Test Pit

COCs AND RISKS:

The OU A ROD listed SWMU 24 as an NFA site.

RAOs:

No RAOs were established for SWMU 24.

SWMU 24 - Hazardous Waste Storage Facility OU A

REMEDY IMPLEMENTATION:

The site was closed under RCRA in 1995, with ICs required. The implementation of ICs began following site closure in 1995. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 24.

SWMU 24 - Hazardous Waste Storage Facility — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — **Click to View ICMP Table**
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date November 1996 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

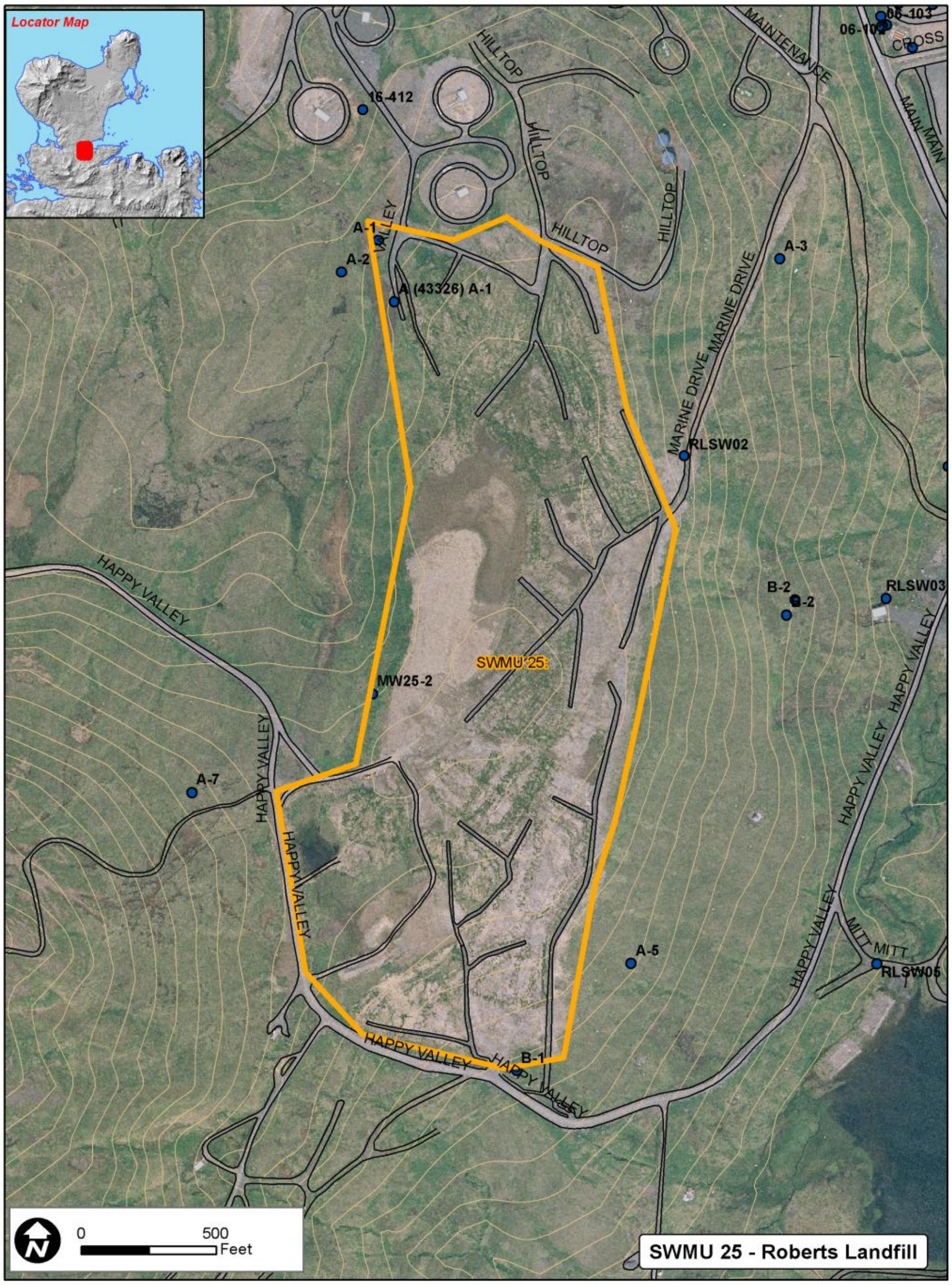
SUMMARY OF INSPECTION RESULTS:

The 2010 five-year review inspection and the 2010 IC inspection report both identified accumulated scrap metal at the site. Currently the site is used for accumulation of scrapped vehicles, metal, appliances, and other debris. Areas clear of debris do not show indications of excavation, however areas covered in debris could not be verified. ICs appear to be functioning as intended, however the 2010 IC report recommended site housekeeping could be improved.

BIBLIOGRAPHY:

29, 31, 39, 44, 62, 65, 67, 72, 84, 113, 128, 125, 129

SWMU 25 - Roberts Landfill — OU A



SWMU 25 - Roberts Landfill OU A

STATUS: Groundwater monitoring, IC inspections, and landfill monitoring.

BACKGROUND:

SWMU 25, the Roberts Landfill, is located approximately 1 mile southwest of NAF Adak. The boundary of Roberts Landfill encompasses 59 acres, including a main portion, a designated asbestos disposal area, and partially buried metal bunkers filled with asbestos material. The areal extent of refuse within the main portion of the landfill is 28.5 acres.

The landfill operated from the early 1950s until 1972 and then again from 1975 to the 2000, when it was capped and closed. During the initial operation, wastes managed included sanitary trash, metal debris, batteries, solvents, waste paints, and construction rubble. Between 1975 and 2000, the landfill accepted only sanitary trash. Portions of the landfill were reopened for disposal of demolition debris in 2001 and again in 2002 for the demolition and disposal of 52 cabins. The landfill was subsequently closed again in 2003. Groundwater monitoring was conducted around the landfill quarterly beginning in 1995 and then annually since 1996. No significant releases were detected.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	46
Number of Pre-Rod Samples	96
Potential Contaminat Types Evaluated	Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Soil, Surface soil (less than 6 inches), Surface water, Water (not groundwater, unspecified)
Types of Pre-ROD Locations	Drum/Container contents, Excavation, Ground surface, Lake/pond/open reservoir, Monitoring well, Outfall, River/stream, Spring/Seep, Well

SWMU 25 - Roberts Landfill OU A

COCs AND RISKS:

The OU A ROD selected the capping of SWMU 25 as a final action. The selected remedy complied with 18 AAC 60 and the permit requirements for closure of the site.

RAOs:

The OU A ROD for the CERCLA site SWMU 25 (Roberts Landfill) did not establish an explicit RAO for SWMU 25 but listed the following requirement:

- Keep landfill cover intact.

REMEDY IMPLEMENTATION:

Roberts Landfill has been closed and reopened several times with the final closure in 2003. The final closure was conducted in accordance with Alaska State regulations. Closure entailed placement of a soil cover over the landfill, grading and contouring, surface water/erosion controls, access restrictions, and installation of a vegetative cover per Alaska solid waste landfill closure requirements. ICs included land use restrictions, access restrictions, and excavation prohibition.

Annual monitoring began in 1995 and is currently being conducted as a provision of the closure and post-closure plans.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 25.

SWMU 25 - Roberts Landfill OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [x] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date August 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater and surface water

Current Analytes Sampled Total 13 priority pollutant metals, dissolved 13 priority pollutant metals, VOCs, alkalinity, COD, sulfate, TDS, TKN, ammonia as nitrogen

Current Monitoring Click to View Current Monitoring **Monitoring File:** SWMU25_MonCurr.pdf

SWMU 25 - Roberts Landfill — OU A

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
A-2	Post closure monitoring	Groundwater
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN	
2003	VOCs, TIN, DIN	
2004	VOCs, TIN, DIN	
2005	VOCs, TIN, DIN	
2006	VOCs, TIN, DIN	
2007	VOCs, TIN, DIN	
2008	TIN, DIN, total and dissolved aluminum	
2009	TIN, DIN, VOCs, total and dissolved aluminum	
2010	TIN, DIN, total and dissolved aluminum	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
A-3	Post closure monitoring	Groundwater
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN	
2003	VOCs, TIN, DIN	
2004	VOCs, TIN, DIN	
2005	VOCs, TIN, DIN	
2006	VOCs, TIN, DIN	
2007	VOCs, TIN, DIN, total and dissolved aluminum	
2008	TIN, DIN, total and dissolved aluminum	
2009	TIN, DIN, VOCs, total and dissolved aluminum	
2010	TIN, DIN, total and dissolved aluminum	

SWMU 25 - Roberts Landfill — OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
A-5	Post closure monitoring	Groundwater
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN	
2003	VOCs, TIN, DIN	
2004	VOCs, TIN, DIN	
2005	VOCs, TIN, DIN	
2006	VOCs, TIN, DIN	
2007	VOCs, TIN, DIN, total and dissolved aluminum	
2008	TIN, DIN, total and dissolved aluminum	
2009	TIN, DIN, VOCs, total and dissolved aluminum	
2010	TIN, DIN, total and dissolved aluminum	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
B-1	Post closure monitoring	Groundwater
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN	
2003	VOCs, TIN, DIN	
2004	VOCs, TIN, DIN	
2005	VOCs, TIN, DIN	
2006	VOCs, TIN, DIN	
2007	VOCs, TIN, DIN, total and dissolved aluminum	
2008	TIN, DIN, total and dissolved aluminum	
2009	TIN, DIN, VOCs, total and dissolved aluminum	
2010	TIN, DIN, total and dissolved aluminum	

SWMU 25 - Roberts Landfill OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-11	Post closure monitoring	Surface water
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Total aluminum, total copper	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-12	Post closure monitoring	Surface water
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Total aluminum, total copper	

SWMU 25 - Roberts Landfill — OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-13	Post closure monitoring	Surface water
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	TIN, DIN, total and dissolved aluminum	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RLSW01	Post closure monitoring	Surface water
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN	
2003	VOCs, TIN, DIN	
2004	VOCs, TIN, DIN	
2005	VOCs, TIN, DIN	
2006	VOCs, TIN, DIN	
2007	VOCs, TIN, DIN, total and dissolved aluminum	
2008	TIN, DIN, total and dissolved aluminum	
2009	TIN, DIN, VOCs, total and dissolved aluminum	
2010	TIN, DIN, total and dissolved aluminum	

SWMU 25 - Roberts Landfill OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RLSW02	Post closure monitoring	Surface water
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN	
2003	VOCs, TIN, DIN	
2004	VOCs, TIN, DIN	
2005	VOCs, TIN, DIN	
2006	VOCs, TIN, DIN	
2007	VOCs, TIN, DIN, total and dissolved aluminum	
2008	TIN, DIN, total and dissolved aluminum	
2009	TIN, DIN, VOCs, total and dissolved aluminum	
2010	TIN, DIN, total and dissolved aluminum	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RLSW03	Post closure monitoring	Surface water
1999	VOCs, TIN	
2000	VOCs, TIN	
2001	VOCs, TIN	
2002	VOCs, TIN	
2003	VOCs, TIN, DIN	
2004	VOCs, TIN, DIN	
2005	VOCs, TIN, DIN	
2006	VOCs, TIN, DIN	
2007	VOCs, TIN, DIN, total and dissolved aluminum	
2008	TIN, DIN, total and dissolved aluminum	
2009	TIN, DIN, VOCs, total and dissolved aluminum	
2010	TIN, DIN, total and dissolved aluminum	

SWMU 25 - Roberts Landfill — OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RLSW04	Post closure monitoring	Surface water

1999	VOCs, TIN
2000	VOCs, TIN
2001	VOCs, TIN
2002	VOCs, TIN
2003	VOCs, TIN, DIN
2004	VOCs, TIN, DIN
2005	VOCs, TIN, DIN
2006	VOCs, TIN, DIN
2007	VOCs, TIN, DIN, total and dissolved aluminum
2008	TIN, DIN, total and dissolved aluminum
2009	TIN, DIN, VOCs, total and dissolved aluminum
2010	TIN, DIN, total and dissolved aluminum

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RLSW05	Post closure monitoring	Surface water

1999	VOCs, TIN
2000	VOCs, TIN
2001	VOCs, TIN
2002	VOCs, TIN
2003	VOCs, TIN, DIN
2004	VOCs, TIN, DIN
2005	VOCs, TIN, DIN
2006	VOCs, TIN, DIN
2007	VOCs, TIN, DIN, total and dissolved aluminum
2008	TIN, DIN, total and dissolved aluminum
2009	TIN, DIN, VOCs, total and dissolved aluminum
2010	TIN, DIN, total and dissolved aluminum

SWMU 25 - Roberts Landfill — OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RLSW06	Post closure monitoring	Surface water

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	Total aluminum, total copper
2010	Monitoring not planned

SUMMARY OF INSPECTION RESULTS:

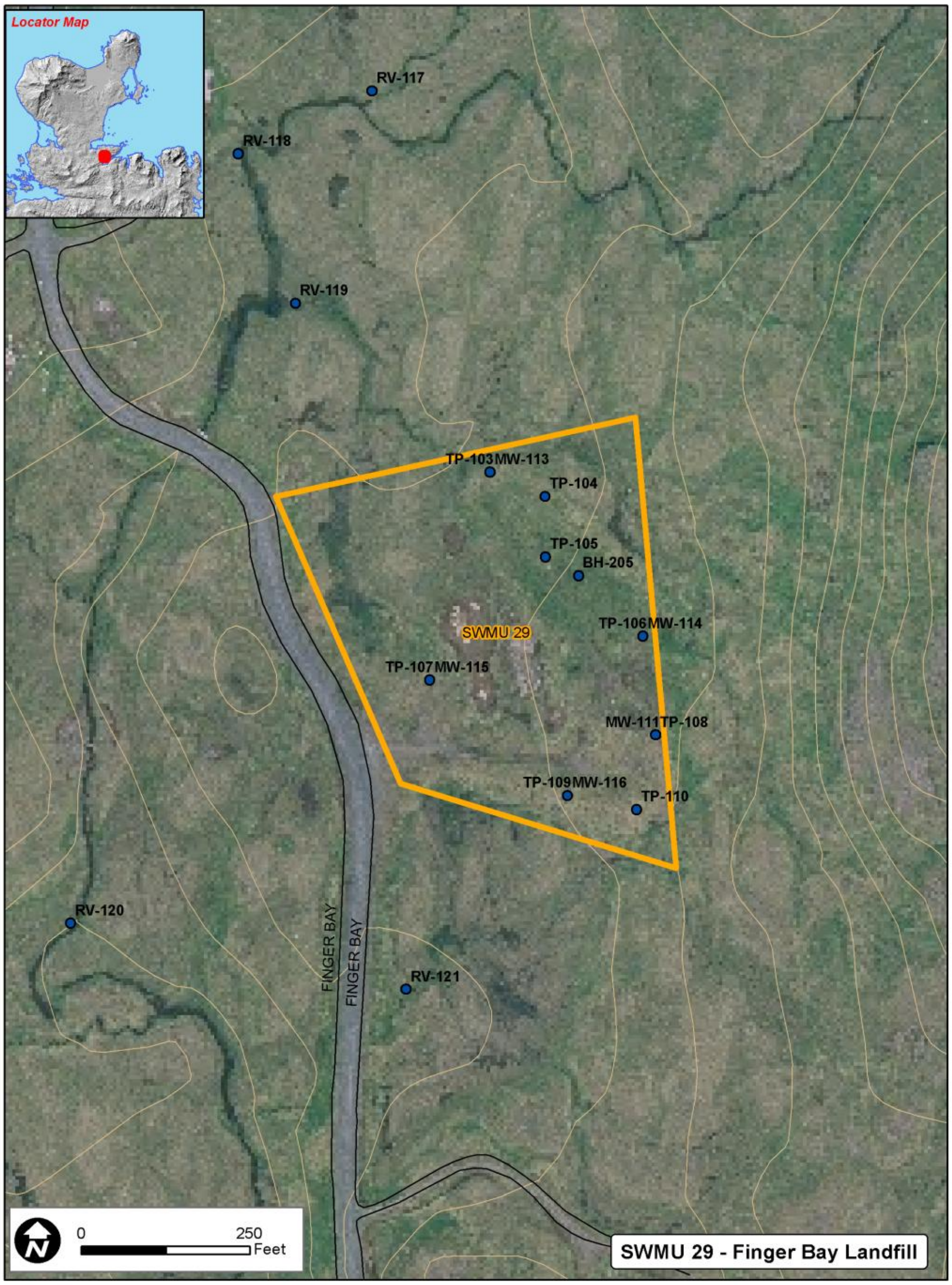
The 2009 IC inspection report identified areas of damaged fencing around the perimeter of the site, an area requiring a gate at the north end of the site, and signage needing repair or replacement. Erosion along the fenceline was also been identified in several areas.

The 2010 IC inspection indicated repairs to fencing, gates and signage took place during summer 2010, and erosion along the fenceline was mitigated with jute mat and reseeding. ICs appear to be functioning as intended, however the report recommends areas of sparse vegetation on the landfill cap be re-seeded, an eroded area in the southern portion of the landfill be repaired and re-seeded, and the small eroded areas outside the western fenceline be monitored relative to the landfill cap.

BIBLIOGRAPHY:

48, 51, 84, 86, 113, 126, 125, 129, 135

SWMU 29 - Finger Bay Landfill OU A



SWMU 29 - Finger Bay Landfill OU A

STATUS: IC and landfill inspections.

BACKGROUND:

SWMU 29 is located in a low-lying area about 2,600 feet south of Sweeper Cove and 1,800 feet north of Finger Bay. The landfill was reportedly used for waste disposal between 1972 and 1975. The areal extent of the landfill is estimated to be approximately 6.7 acres, based on geophysical information. Nearby landmarks include a Quonset hut and cabin located about 700 feet northwest of the landfill and about 100 feet west of an unnamed stream. The stream, which drains the site vicinity, flows from the northeast to the southwest, passing through a weir located immediately northwest of the landfill and ultimately to Finger Bay.

The ground surface above the landfill is graded relatively flat, ranging from 100 to 130 feet above MLLW. Previous investigations indicated that the surface consists of 0.5 to 1 foot of gravelly fill overlying between 2 and 7 feet of debris. Debris identified in the landfill includes construction wastes (concrete, wire, various metal scraps, wood) and household garbage (cans, bottles, garden hose, plastic products). The base of the landfill and the surrounding surface are predominantly low-permeability volcanic ash or bedrock. Vegetation is sparse over much of the landfill surface, and the surrounding landscape is vegetation typical for lowland tundra.

In 1996 the Navy removed seven intact 15-gallon containers and pieces of eight to 10 others from the unnamed stream. The white material in some of the drums was reported to be spent calcium carbide.

Analytical results of sediment, subsurface soil, and groundwater samples were used to assess human health and ecological risk.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	19
Number of Pre-Rod Samples	39
Potential Contaminat Types Evaluated	Dioxins and furans, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sediment , Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Monitoring well, River/stream, Test Pit, Well

SWMU 29 - Finger Bay Landfill OU A

COCs AND RISKS:

The OU A ROD identified the following risk drivers (Tables 6-5 of the OU A ROD):

Soil

- Aroclor 1254

The human health cancer risk for the Adak residential scenario was calculated as 3 E-05 driven almost entirely by Aroclor 1254 (Tables 6-4 and 6-5 of the OU A ROD). The cancer and noncancer risks, based on other human health scenarios, were below levels of concern (Table 6-4 of the OU A ROD). The ecological HI caused by exposure to chemicals in sediment was estimated to be 26 (Tables 6-4 and 6-7 of the OU A ROD), most of which was associated with one sample collected near the 15-gallon containers in the stream that were removed. The ecological HI caused by exposure to chemicals in subsurface soil was estimated to be 172. The only burrowing animals on Adak are the Norway rat and the arctic fox, neither of which is expected to commonly use this site, because of the sparse vegetation.

RAOs:

The OU A ROD for the CERCLA site SWMU 29 (Finger Bay Landfill) established the following RAOs for SWMU 29 (Table 7-2 and pg. 10-2 of the OU A ROD):

- Protect ecological receptors from exposure to landfill debris, sediment, and subsurface soil that could result in cancer risk greater than 1E-05 or a noncancer risk above an HI of 1.0.

REMEDY IMPLEMENTATION:

The remedy selected in the OU A ROD is ICs. The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 29.

SWMU 29 - Finger Bay Landfill — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐	Groundwater Monitoring	☑	Landfill Inspection
☐	Surface Water Monitoring	☑	IC Inspection — Click to View ICMP Table
☐	Sediment Monitoring	☐	Remediation System Monitoring and Maintenance
☐	Tissue Monitoring	☐	None Required

Most Recent Sampling Date November 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SWMU 29 - Finger Bay Landfill OU A

SUMMARY OF INSPECTION RESULTS:

The 2009 ICs inspection report identified areas of surface water ponding or runoff, as well as areas where landfill cover material was eroded and metal debris was exposed at the surface.

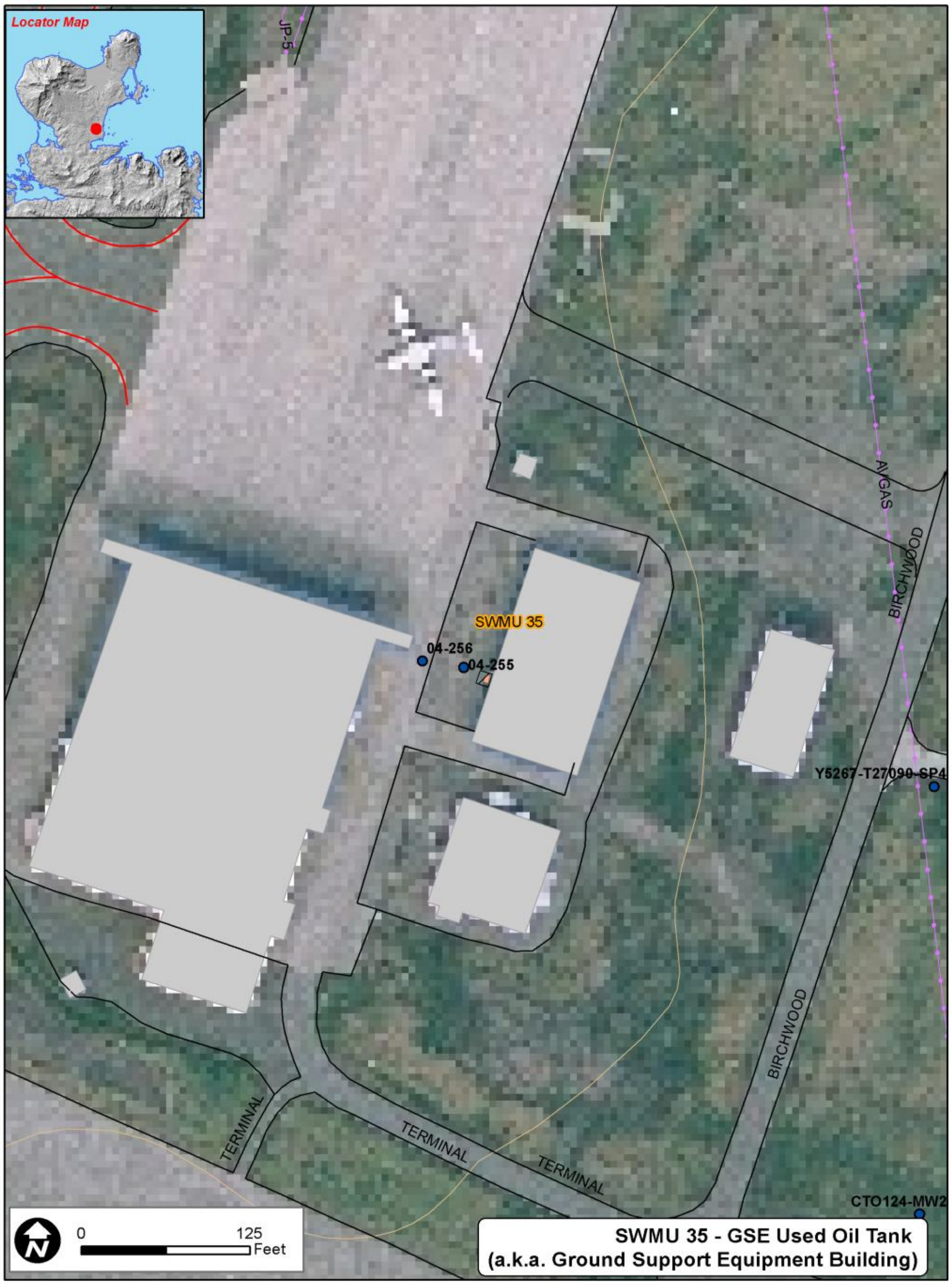
The August 2010 site inspection performed in support of the five-year review found evidence of minor regrading and re-seeding, but that conditions were acceptable. Currently the site is not being used and it appears ICs are functioning as intended. The 2010 IC report was consistent with these findings.

BIBLIOGRAPHY:

19, 62, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 35 - GSE Used Oil Tank **OU A**



SWMU 35 - GSE Used Oil Tank OU A

STATUS: NFA per the OU A ROD.

BACKGROUND:

SWMU 35, located at the GSE Building is located on the north side of the end of Terminal Road, just east of A-Taxiway. The building housed aircraft ground-support facilities, including a paint shop and general maintenance shop, both of which have operated since 1966. Next to the building, UST 27044 stored used oil generated by steam-cleaning operations. The 500-gallon UST, made of aluminum, was partially buried on the west side of the building.

The general topography of the SWMU 35 area slopes slightly west, toward Runway 18-36; the site and the area west of SWMU 35 have been graded flat and paved. The elevation of the site is about 9 feet above MLLW. Surface water runoff is diverted to storm sewers that drain into the airport runway drainage ditches. The closest runway drainage ditch to SWMU 35, East Airport Ditch, is approximately 575 feet west. Subsurface soils consist of a brown to dark gray silty sand with varying amounts of gravel. No groundwater monitoring wells exist near the site. The depth to groundwater is estimated to be 15 feet bgs based on the Adak groundwater study. Topography indicates that the groundwater flow direction is to the west, toward the runway drainage ditches. The aquifer is classified as having a high water-bearing capacity.

UST 27044 was removed in September 1993. A 2-inch-diameter plastic inlet pipe connected the tank to the building. Other tank components included a 6-inch-diameter inlet or pump-out pipe and a vent pipe. There were no dispensers associated with the tank. At the time of removal, the tank contained a trace amount of sludge and showed no signs of corrosion. The tank measured about 3.5 by 4 feet by 6 feet long and the tank excavation measured about 8.5 by 8.5 feet and 1.5 feet deep. The soil on the south and west sidewalls of the excavation was stained black and smelled like petroleum. Two soil samples were collected from the east and west ends of the excavation floor, at about 1 to 1.5 feet bgs for laboratory analysis of DRO, TRPH, VOCs, and ORO. The highest reported concentration of DRO was 1,700 mg/kg. The results indicated DRO at concentrations in exceedance of ADEC matrix levels.

In 1996, a groundwater monitoring well (04-255) was installed approximately 20 feet west of the former UST excavation and a wellpoint (04-256) was installed approximately 45 feet west of the former UST excavation. One soil sample was collected from 04-255 and analyzed for DRO, GRO, and BTEX. DRO, GRO and total BTEX were reported at concentrations of 8,400 mg/kg, 600 mg/kg, and 81.4 mg/kg respectively all of which are below ADEC supplemental screening criteria for industrial sites.

Groundwater samples were collected from 04-255 and 04-256 and analyzed for DRO, GRO, BTEX, and PAHs. DRO was detected at 1,300 and 1,100 J µg/L; GRO was detected at 162 and 130 µg/L, respectively. Benzene was detected at location 04-255 at 1.9 µg/L. Total BTEX concentrations were measured at 79.9 and 83.1 J µg /L at locations 04-255 and 04-256, respectively. No cPAHs were detected in either well. Total LPAH concentrations were 3.05 and 1.78 µg/L at locations 04-255 and 04-256, respectively.

SWMU 35 was listed as a NFA site in the OU A ROD since concentrations of DRO and GRO were below the ADEC supplemental screening criteria for industrial sites, the site is greater than 200 feet from a surface water body, and no free product was encountered on-site.

SWMU 35 - GSE Used Oil Tank — OU A

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	6
Number of Pre-Rod Samples	8
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Excavation, Well

SWMU 35 - GSE Used Oil Tank OU A

COCs AND RISKS:

The OU A ROD listed SWMU 35 as an NFA site.

RAOs:

No RAOs were established for SWMU 35.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is NFA.

SWMU 35 - GSE Used Oil Tank | OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date May 1997 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SWMU 35 - GSE Used Oil Tank — OU A

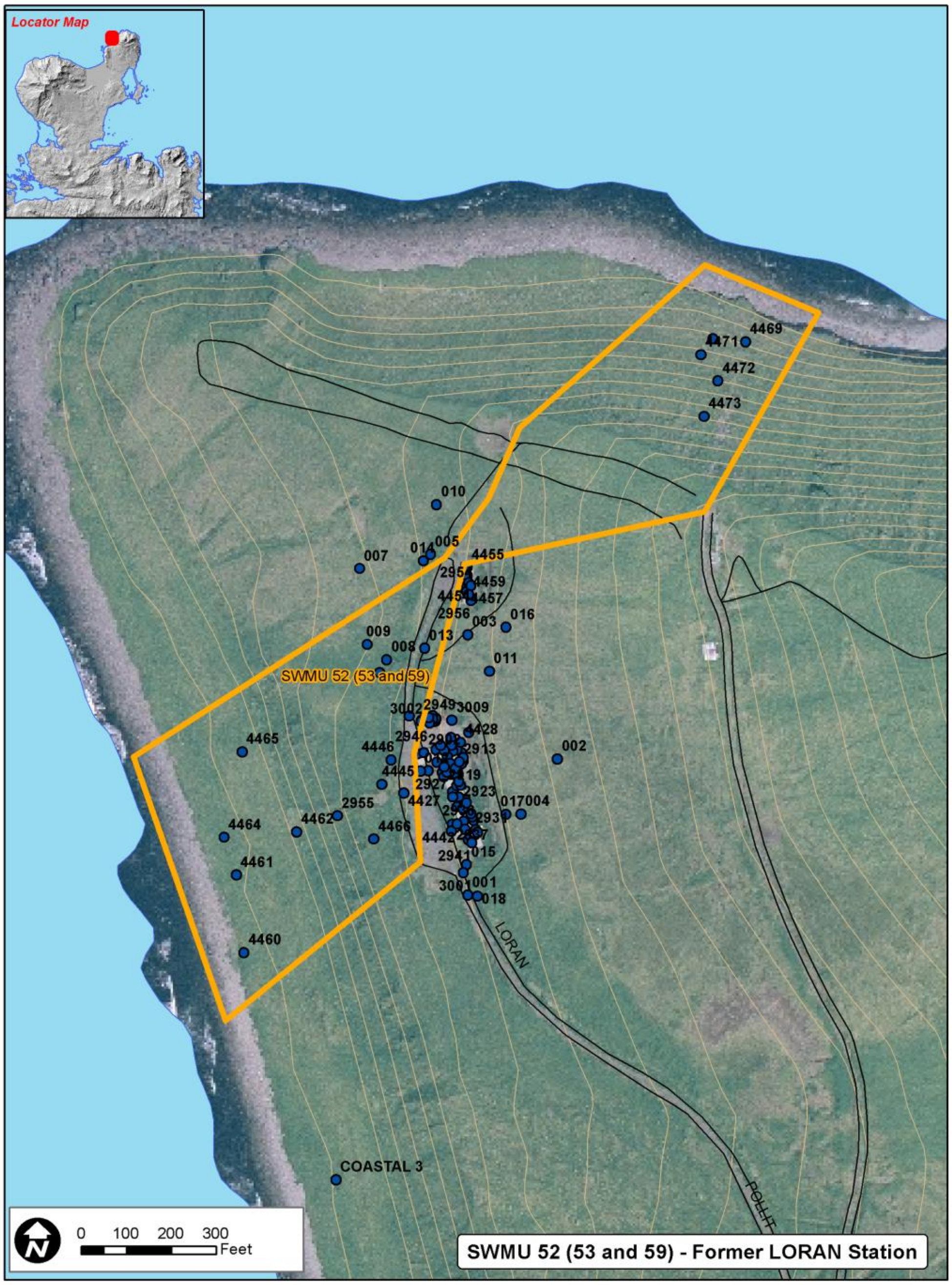
SUMMARY OF INSPECTION RESULTS:

The site is currently being used as a shop/office space by the airport.

BIBLIOGRAPHY:

18, 114

SWMU 52 (53 and 59) - Former LORAN Station OU A



SWMU 52 (53 and 59) - Former LORAN Station OU A

STATUS: IC inspections.

BACKGROUND:

The Former Loran Station was constructed between 1948 and 1950 to support U.S. Naval and Coast Guard navigation in and out of the Aleutian Islands. The station was closed in 1979. Since then, it has fallen into a state of disrepair, evidently from vandalism and the extreme weather conditions.

The Former Loran Station includes the following SWMUs: SWMU 52 (Loran Transmitter Complex, referred to as the Signal Building), SWMU 53 (Loran Paint/Workshop Building, referred to as the Paint Storage Shed), and SWMU 59 (Loran Boiler and Barracks, referred to as the Mechanical Building).

The station is located on a northwest-facing promontory along the Bering Sea coastline. The promontory is located on the northwest flank of Mount Adagdak. The station was constructed on a relatively gentle (16 percent grade) portion of the west-facing slope between 150 and 300 feet above MLLW. West of the site, the land surface drops more sharply (53 percent grade) toward the Bering Sea. To the north, a steep shoreline escarpment (67 percent grade) bounds the facility. Areas within 1 mile to the south and east of the Former Loran Station are undeveloped and are expected to remain so.

The site also includes a former UST pit. The three tanks and their contents were removed in July 1994. The pit was backfilled with 200 cubic yards of soil. A septic system and its outflow fixtures are located on the western escarpment. Debris is scattered on both escarpments. Live ordnance (an illuminator cartridge) was discovered along the western escarpment in July 1995 during sampling activities.

Isolated debris, including empty drums and pieces of scrap metal and wood, is strewn about the western escarpment downhill from the buildings. The structure and contents of each of the three buildings have been severely damaged from vandalism and weather.

The foundation for the former Loran Building is located on the upper terrace above the three buildings. This building was razed in 1983. Debris, presumably derived from the demolition of the Loran Building, lies directly downslope on the northern escarpment. The debris along the northern escarpment includes over 100 empty drums, the original contents of which are unknown; building materials such as steel and wood, most likely derived from the former Loran Building; electrical components; old automobiles; and a few pieces of nondescript large equipment. Additional debris is reportedly buried or wedged along the bottom of the escarpment, where the land surface consists of large (8 to 10 foot-diameter) boulders. Because of the steepness of the slope, no definitive inventory of the debris has been made.

Analytical results of surface and subsurface soil samples were used to assess human health and ecological risk.

SWMU 52 (53 and 59) - Former LORAN Station OU A

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	107
Number of Pre-Rod Samples	157
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Product (floating or free), Sediment , Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Excavation, Ground surface, Intertidal, Pipeline, Stockpile, Tank

COCs AND RISKS:

Due to the following risk drivers in surface soil, total human health cancer risks were greater than 1E-05. The OU A ROD identified the following risk drivers for this site (Table 6-5 of the OU A ROD):

<u>Soil</u>

- Arsenic
- Benzo(a)pyrene

Analytical results of surface and subsurface soil samples were used to assess human health and ecological risk. The human health cancer risk for the Adak residential scenario was calculated as 5E-05 (Table 6-4 of the OU A ROD). The cancer and noncancer risks, based on other human health scenarios, were below levels of concern. The ecological HI caused by exposure to chemicals was estimated to be 260 (Tables 6-6 and 6-7 of the OU A ROD), most of which were two SVOCs in surface soil. Because these compounds were detected in one of 36 samples, the exposure to receptors would be negligible and the ecological risk is not significant.

RAOs:

The OU A ROD for the CERCLA site SWMU 52 (Former LORAN Station including 53 and 59) established the following RAOs for SWMU 52 (interpreted from Table 7-2 and pg. 10-6 of the OU A ROD):

- Protect human health and ecological exposure to soil and debris.

SWMU 52 (53 and 59) - Former LORAN Station OU A

REMEDY IMPLEMENTATION:

The remedy selected in the OU A ROD is ICs. The implementation of ICs began following execution of the ROD in April 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 52.

SWMU 52 (53 and 59) - Former LORAN Station — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection — Click to View ICMP Table
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date July 1995 **Most Recent Inspection Date:** August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

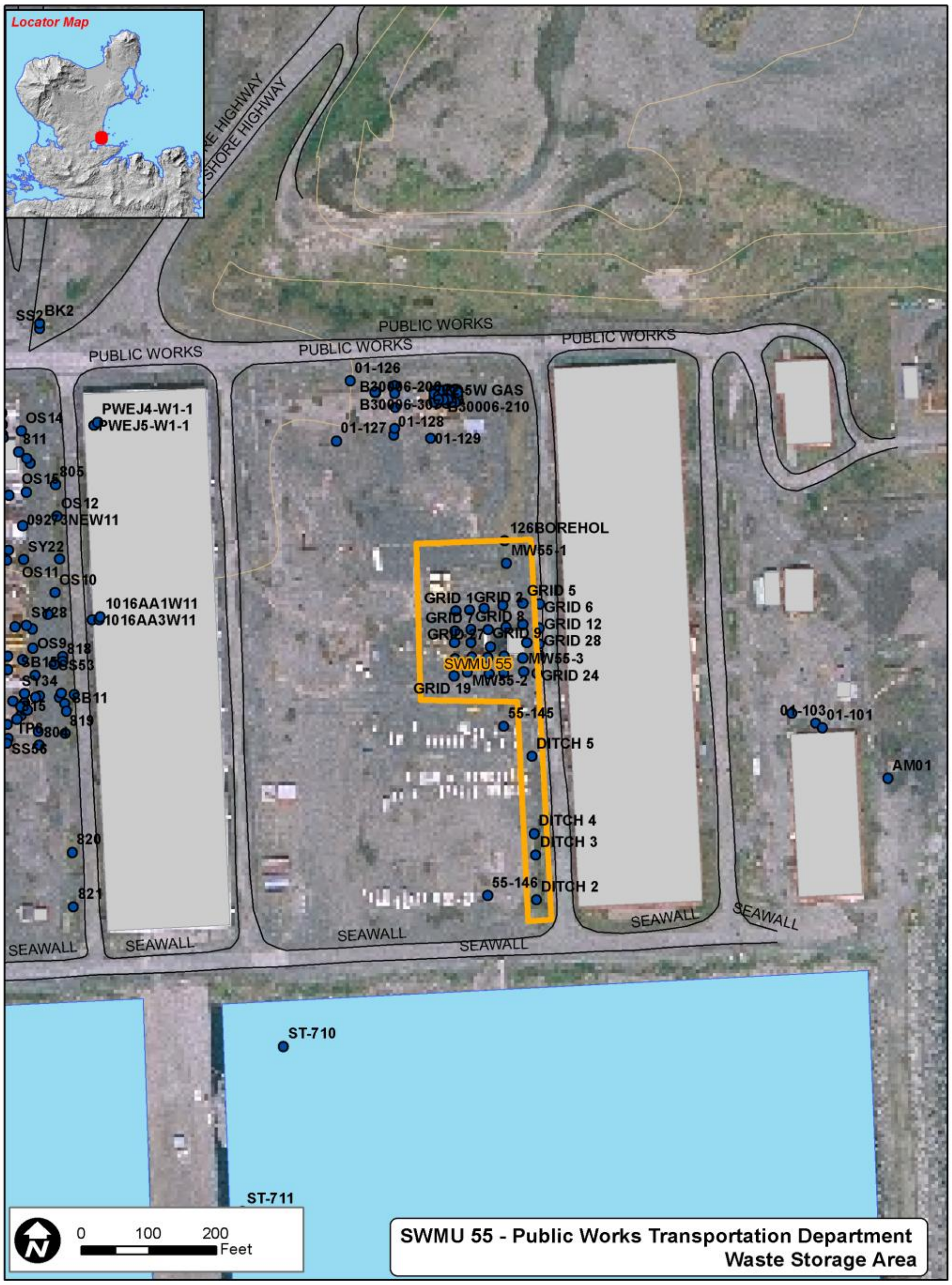
The inspection in September 2010 found that the site has had no apparent activity and that ICs are functioning as intended.

BIBLIOGRAPHY:

65, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 55 - Waste Storage Area OU A



SWMU 55 - Waste Storage Area — OU A

STATUS: Groundwater monitoring and IC inspections.

BACKGROUND:

SWMU 55, the Public Works Transportation Department Waste Storage Area, is located in the industrial area of downtown Adak. It is west of the Red Shed (Building T-1441). SWMU 55 consists of approximately 0.7 acre of flat, gravel-covered surface (approximately 150 by 200 feet). The elevation of most of SWMU 55 is 19 feet above MLLW. Site drainage leads to Sweeper Cove, about 700 feet away. A steel storage shed (30 by 24 feet) was erected in 1983 in the east-central area of the site. Wastes stored on site included POL, spent solvents, and other maintenance-related materials.

The exact starting date for waste accumulation and storage at this site is not known; however, it is assumed that such storage took place concurrently with vehicle maintenance operations in Building T-1441 (Red Shed). The Red Shed was constructed in 1944, and it was originally the property of the U.S. Army, which designated it as the Transit Shed. In 1951, this property was transferred to the U.S. Navy, and the Red Shed became a vehicle maintenance and storage area. In 1983, the Navy constructed the SWMU 55 steel storage shed for storage of flammable materials. New oil, hydraulic and transmission fluids, and other vehicle-care products were stored inside of and adjacent to the steel shed. In approximately 1983, the Navy began to store accumulated waste oils, spent solvents, and other maintenance-related materials outside of the steel storage shed. Surface soils beneath and around the drums showed signs of staining under the wooden pallets during the 1995 field investigation.

Under the CERCLA evaluation, analytical results of groundwater, surface and subsurface soil, and sediment samples were used to assess human health and ecological risk.

This site was also evaluated under SAERA. No concentrations of DRO exceeded the screening criterion for industrial sites.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	35
Number of Pre-Rod Samples	54
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Ground surface, Well

SWMU 55 - Waste Storage Area OU A

COCs AND RISKS:

The following groundwater COCs were identified in the OU A ROD because of exceedances above MCLs or ADEC criteria (Table 10-3 of the OU A ROD):

Groundwater

- Antimony
- Bis(2-ethylhexyl)phthalate
- Methylene chloride
- Tetrachloroethene

The human health cancer risk and noncancer HI for the Adak residential scenario were calculated as 1E-04 and 1, respectively. The risk driver for the cancer and noncancer risks is PCE in groundwater (Tables 6-4 and 6-5 of the OU A ROD). The cancer and noncancer risks, based on other human health scenarios, were below levels of concern. Future residential use is unlikely at the site because it is located in the middle of an industrial area of downtown Adak, near a dock. There is no ecological risk because of the absence of ecological habitat and receptors.

RAOs:

The OU A ROD for the CERCLA site SWMU 55 (Public Works Transportation Department Waste Storage Area) established the following RAOs for SWMU 55 (interpreted from Table 7-2 and pg. 10-6 of the OU A ROD):

- Protect human health exposure to groundwater.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy is ICs. This remedy includes compliance monitoring for CERCLA-regulated compounds. The implementation of ICs began following execution of the ROD in April 2000.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 55.

SWMU 55 - Waste Storage Area OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [x] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — **Click to View ICMP Table**
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled PCE and daughter products

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** SWMU55_MonCurr.pdf

SWMU 55 - Waste Storage Area OU A

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
55-145	Compliance	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	VOCs, SVOCs, TIN, DIN
2002	VOCs, SVOCs, TIN, DIN
2003	Dissolved antimony, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2004	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2005	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride
2006	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2007	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2008	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2009	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2010	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride

SWMU 55 - Waste Storage Area — OU A

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
55-146	Compliance	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	VOCs, SVOCs, TIN, DIN
2002	VOCs, SVOCs, total and dissolved lead, TIN, DIN
2003	Dissolved antimony, TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, methylene chloride, bis(2-ethylhexyl)phthalate
2004	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride (even years only), methylene chloride, bis(2-ethylhexyl)phthalate (annually)
2005	methylene chloride, bis(2-ethylhexyl)phthalate
2006	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2007	Monitoring not planned
2008	TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride
2009	Met endpoint criteria; monitoring discontinued

SUMMARY OF INSPECTION RESULTS:

The site is currently being used for storage of abandoned vehicles and equipment.

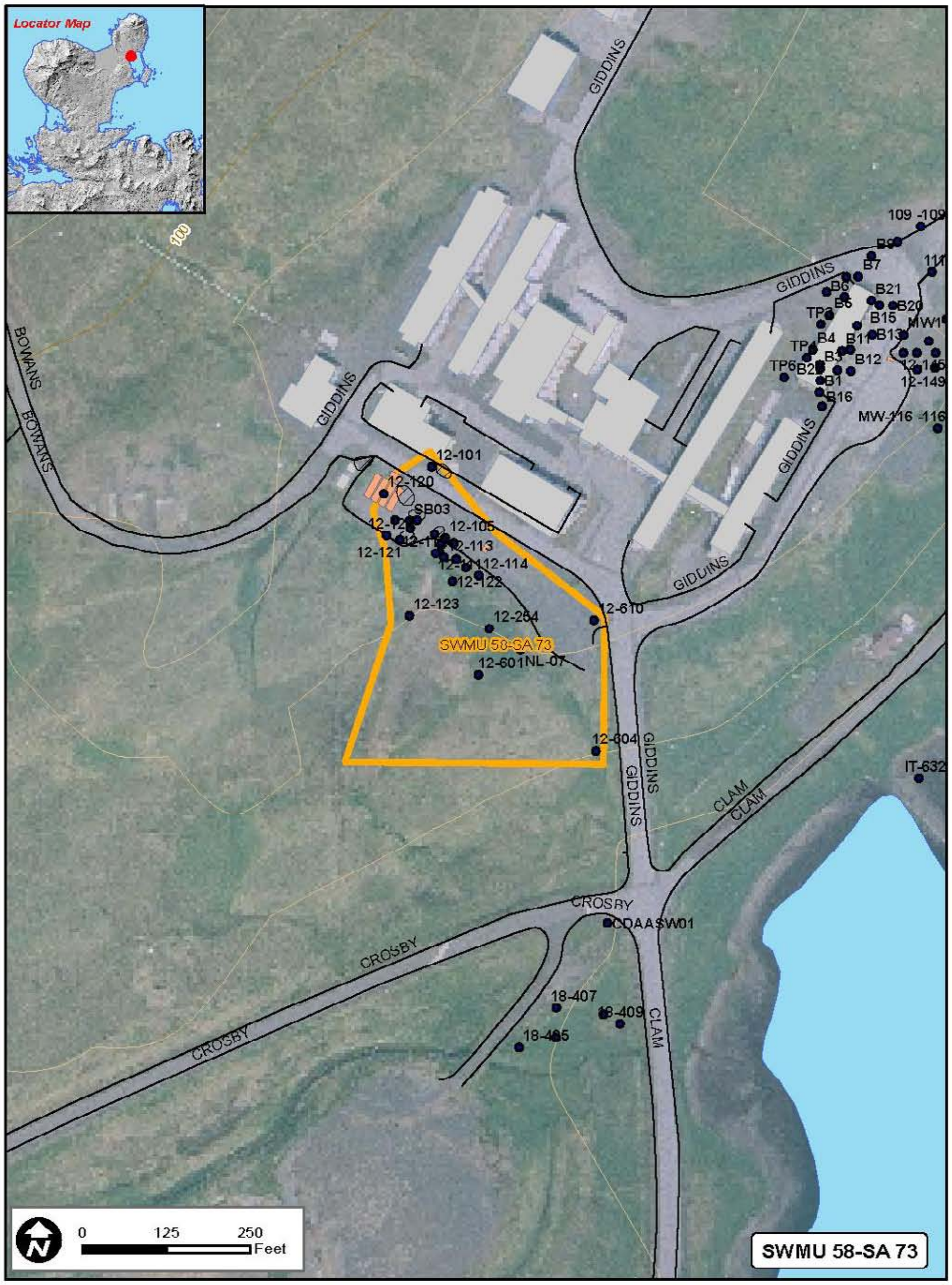
The inspection in September 2009 found that the site has had no apparent activity and that ICs are functioning as intended. During the August 2010 inspection conducted in support of the five-year review it appeared that the site was being used as a bone yard. Stained soil, several car batteries, and a drum of burned aerosol cans were observed. The 2010 IC report recommended that site owners be notified of site conditions and appropriate investigation and/or cleanup may be required due to poor housekeeping conditions.

BIBLIOGRAPHY:

65, 66, 84, 86, 90, 113, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 58 - Heating Plant 6 (Including SA 73) **OU A - SAERA**



SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

STATUS: Groundwater, surface water, and sediment monitoring, as well as IC inspections.

BACKGROUND:

SWMU 58 and SA 73, Heating Plant 6, is situated in the southeast corner of the former NSGA complex, approximately 5 miles north of downtown Adak on the lower, southern slope of Mount Adagdak. The Heating Plant 6 site comprises Building 10348 and 10585, six former USTs, one former AST, and one former oil/water separator and was established in April 1977. Only the buildings remain at the site. The plant was bordered on the east by the NSGA complex, which closed in 1995. The tanks and oil/water separator were removed from the site between 1993 and 1996. Heating Plant 6 supplied heat and power to the NSGA complex during its operational history from the 1950s until 1995. The NSGA complex is currently unused.

The Heating Plant No. 6 site encompasses approximately one-third of an acre. The primary physical features on the site are the heating plant (Building 10348) the former NSGA, Gladdings Road, and a large gravel parking area that formerly contained the on-site USTs and oil/water separator. Native tundra grasses exist south of the site. Two drainage ditches that channel surface water runoff toward Clam Lagoon are located at the edge of the gravel area.

Four source areas were identified at the Heating Plant 6 site: AST 10348-A, USTs 10570 through 10573 and 10585-A, UST V-118, and O/W 10348-B. The following describes the removal and cleanup activities associated with each source area.

AST 10348-A was formerly located adjacent to the south wall of the heating plant building near its southeast corner. The tank was taken out of service in April 1994.

USTs 10570, 10571, 10572, 10573, and 10585-A constitute the former fuel farm for Heating Plant 6. USTs 10572 and 10573 were removed from the site in August 1994. USTs 10570 and 10571 were removed in April 1996. The tanks were generally reported to be in good condition on removal; however, free product was encountered on the groundwater at 14 feet bgs during removal activities. UST 10585-A was removed from the site in July 1993.

UST V-118 was a 1,500-gallon steel tank that is believed to have stored either mogas or diesel fuel. The date that the tank was taken out of service is not known, but is presumed to be prior to 1994. After deactivation, the manway cover to UST V-118 was left unsecured, allowing water to enter the tank. During June 1994, prior to the removal of the UST, water was twice pumped out of the tank and passed through an oil/water separator and activated carbon before being discharged to the Adak wastewater treatment plant. UST V-118 was removed from the site on September 14, 1994.

O/W 10348-B was a 1,000-gallon concrete tank that collected waste fluids from floor drains within the Heating Plant 6 building. The oil/water separator was a 1.5-by-1.5-by-1-foot rectangular box installed within the concrete tank. The date that the oil/water separator was taken out of service is not known, but a dye test performed prior to removal confirmed that the floor drains in the heating plant building had been sealed. O/W 10348-B was removed from the site during September 1994, and a seep identified as free product and flowing at a rate of approximately 2 gallons per minute was noted at about 9 feet bgs on the south wall of the excavation. Excavation activities were stopped at this point and the excavation was backfilled. A monitoring well was installed in the backfilled excavation to monitor product accumulation. This well showed water at 7.5 feet bgs and an accumulation of less than 0.5 inch of product.

During July 1998 a French drain was installed in the north-south-trending drainage ditch and small secondary ditch south of the Heating Plant 6 site as an aesthetic corrective action. The northwest-southeast-trending ditch was unaltered. The north-south-trending drainage ditch was cleared of vegetation, a geotextile liner was installed at the bottom of the ditch, and a 4-inch-diameter perforated drainpipe (French drain) was laid on top of the liner. The ditch was then backfilled with crushed rock, pit run (quarry material), and topsoil. The topsoil was then fertilized and seeded to promote vegetation growth.

Between 1993 and 1999, 46 soil samples were collected across the Heating Plant 6 site from 33 locations. DRO was detected in all but three of these 46 samples and exceeded the ADEC Method Two soil criterion of 230 mg/kg in 28 of the 46 samples. GRO exceeded the ADEC Method Two soil criterion of 260 mg/kg in five samples.

In 1996 and 1997, 18 groundwater samples were collected from 12 wells and analyzed for DRO, GRO, and BTEX. DRO was detected in every groundwater sample collected in 1996 and 1997, with concentrations ranging from 1,300 µg/L to 15,000 µg/L. GRO was detected in only nine of these samples. Neither DRO nor GRO was detected in concentrations greater than the ADEC criteria for groundwater not used as a drinking water source of 15,000 µg/L and 13,000 µg/L, respectively, from groundwater samples collected in 1996 and 1997. Two of the 18 groundwater wells were resampled in 1998. In 1998, two sentinel wells (12-601 and 12-604) were installed in the southeastern portion of the site, downgradient from the USTs. DRO has not been detected in well 12-601 since 2000, and GRO has not been detected in well 12-601 since 1999.

Monitoring wells within the vicinity of the Heating Plant 6 site have been gauged periodically for the presence of free product since October 1996. Passive-style product skimmers were installed in selected monitoring and recovery wells in January 1997. These skimmers were rotated among the seven wells that contained measurable product thickness. The skimmers operated continually at the site from January through May 1997, and intermittently as product volume decreased. Approximately 5 gallons of free product were recovered from the Heating Plant 6 site during the first five months of product recovery efforts and decreased to less than 0.25 gallon between 1997 and October 1999. No product has been recovered since October 1999. The Navy contends that free product has been recovered at this site to the maximum extent practicable, as required by 18 AAC 75.325(f)(1)(B). Product recovery efforts were discontinued at this site during July 2000.

While ADEC did not specifically concur with the cessation of the product recovery efforts at the Heating Plant 6 site, ADEC has been involved and concurred with subsequent decisions made regarding this site.

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	27
Number of Pre-Rod Samples	96
Potential Contaminat Types Evaluated	Inorganics, Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sludge, Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water
Types of Pre-ROD Locations	Channel/Ditch, Excavation, Geoprobe well, Ground surface, Hand auger, Monitoring well, Recovery well

COCs AND RISKS:

SWMU 58/SA 73 was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery.

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the additional evaluation under SAERA. This site poses no unacceptable risk to human health or the environment above target health goals, provided that Ics remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at SWMU 58/SA 73 is not considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established the following cleanup levels based on ADEC regulatory criteria for the following COCs:

Groundwater

- DRO

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

RAOs:

The OU A ROD for the petroleum site SWMU 58, Heating Plant 6 (Including SA 73) established the following original RAO for SWMU 58 (Table 7-4 of the OU A ROD):

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below Alaska DEC groundwater cleanup levels.
- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery. Product recovery was initiated during January 1997 and was terminated during October 1999. Approximately 5.25 gallons of product were recovered.

A decision document prepared by the Navy and ADEC specifies the final remedy as MNA and ICs. This remedy was implemented in 2005. A decision document for final remedial action for the petroleum sites with no unacceptable risk was signed May 20, 2005. The decision document identifies MNA and ICs as the final remedy. MNA activities were implemented in 2005 via changes to the CMP. Although not explicitly required by the OU A ROD, ICs were implemented in 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 58/ SA 73.

In addition to the required MNA and IC components of the final remedy, the 2005 SAERA decision document also required replacement of well 12-203 with a larger diameter well to facilitate groundwater monitoring, collection of an additional soil sample during replacement of this well, collection of two additional groundwater samples from wells 12-203 and 12-110, and one surface water sample from the downstream end of the two on-site drainage ditches prior to their discharge into CDAA Creek. Additional surface water sampling was to be conducted depending on the results of the initial surface water sample.

Although free product recovery endpoints have been met at this site, the SAERA decision document required additional product recovery, as needed, as part of scheduled groundwater monitoring activities under the CMP.

The required soil sample was collected in September 2004 by placing a soil boring adjacent to well 12-203, which was replaced in June 2006. Analytical results of the soil sample reported a DRO concentration exceeding the ADEC cleanup level. The required surface water and groundwater samples were collected in September 2004. Product recovery requirements were incorporated into the CMP.

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [x] Surface Water Monitoring
- [x] IC Inspection Click to View ICMP Table
- [x] Sediment Monitoring
- [x] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010
Current Media Sampled Groundwater, surface water, and sediment
Current Analytes Sampled DRO, NAPs, product thickness
Current Monitoring Click to View Current Monitoring **Monitoring File:** SWMU58_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-101	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	Met endpoint criteria; monitoring discontinued	

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-105	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	DRO, GRO, BTEX
2009	Free product detected, not sampled
2010	DRO

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-106	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-108	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-110	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Free product detected, not sampled
2005	Free product detected, not sampled
2006	Free product detected, not sampled, product thickness (monthly)
2007	Free product detected, not sampled, product thickness (monthly)
2008	Free product detected, not sampled, product thickness
2009	Well 12-105 replaced this well, monitoring discontinued

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-114	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX (even years only)	
2007	Monitoring not planned	
2008	DRO, GRO, BTEX	
2009	NAPs	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-120	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	Met endpoint criteria; monitoring discontinued	

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-121	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO, GRO, BTEX
2006	Free product detected, not sampled, product thickness (monthly)
2007	DRO, GRO, BTEX, product thickness (monthly)
2008	Free product detected, not sampled, product thickness (monthly)
2009	DRO, NAPs, product thickness (monthly)
2010	DRO, product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-124	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-125	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-201	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-202	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-203	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Free product detected, not sampled
2005	Free product detected, not sampled
2006	Free product detected, not sampled, product thickness (monthly)
2007	Free product detected, not sampled, product thickness (monthly)
2008	Free product detected, not sampled, product thickness (monthly)
2009	DRO, NAPs, product thickness (monthly)
2010	DRO, product thickness (monthly)

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-601	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-604	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX (even years only)	
2007	Monitoring not planned	
2008	DRO, GRO, BTEX	
2009	Monitoring not planned	
2010	DRO	

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-610	SW protection, PT	Groundwater
1999	Well was dry	
2000	Well was dry	
2001	Well was dry	
2002	Monitoring discontinued Well has been dry for last four sampling events Replacement well installed	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
12-611	SW protection	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO	
2010	DRO	

SWMU 58 - Heating Plant 6 (Including SA 73) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-07	SW protection	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	DRO
2010	No petroleum contamination observed, not sampled

SUMMARY OF INSPECTION RESULTS:

In 2008, multiple excavations were noted in the annual inspection report. These excavations were related to copper salvaging activities occurring throughout the island. Damaged or leaking transformers were found at the site. The following year, it was reported that the previously identified excavations had been filled in; however, the abandoned transformers are still located on site.

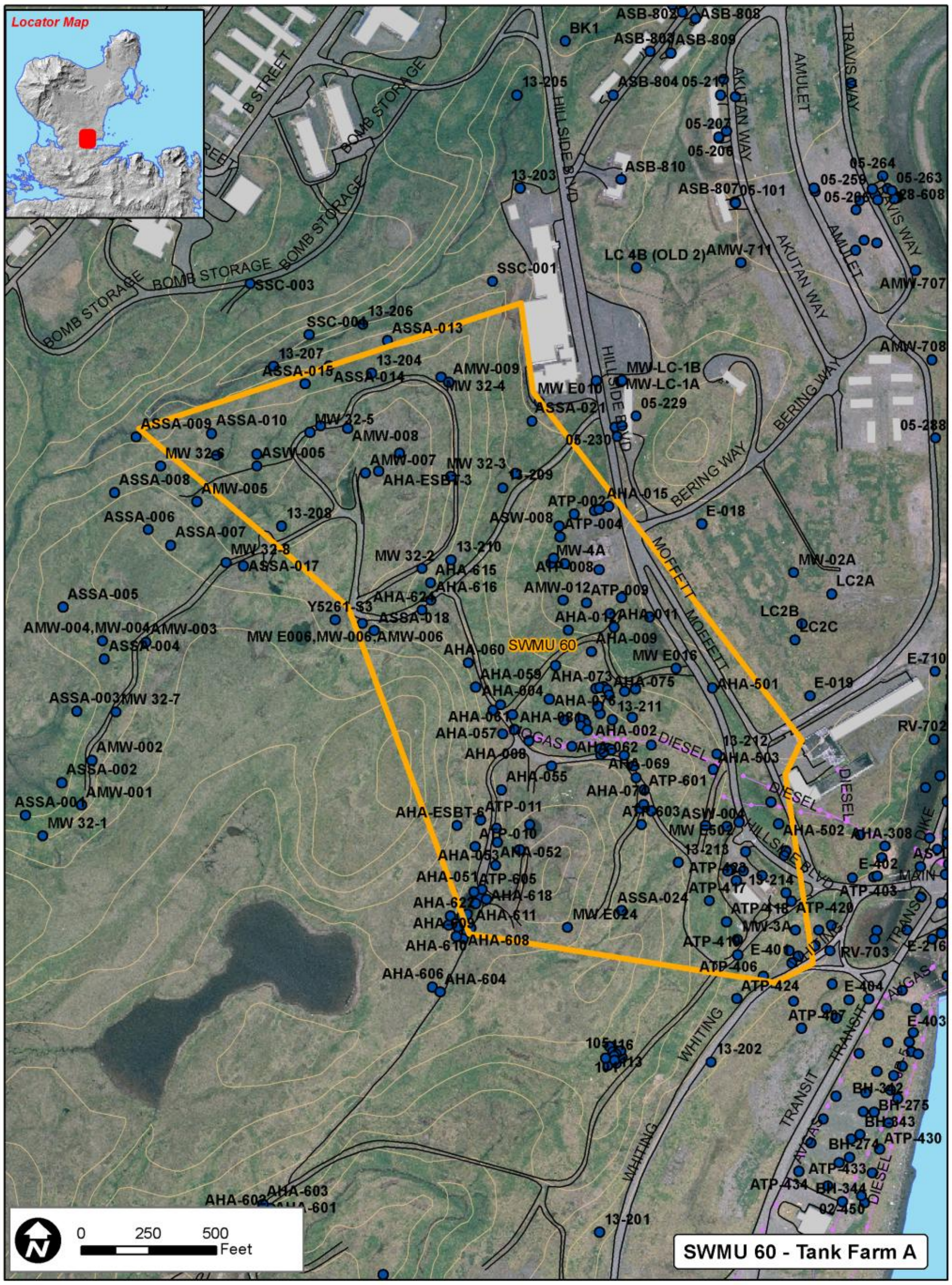
During the 2010 five-year review inspection, surface soil staining was observed immediately north of the Heating Plant 6 building. The 2010 IC report indicates ICs appear to be functioning as intended.

BIBLIOGRAPHY:

7, 53, 61, 77, 84, 86, 90, 91, 113, 121, 122, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 60 - Tank Farm A — OU A - SAERA



SWMU 60 - Tank Farm A — OU A - SAERA

STATUS: Groundwater, surface water, and sediment monitoring; petroleum boom maintenance; and IC inspections. Additional investigation in 2010.

BACKGROUND:

Tank Farm A, designated SWMU 60, is a former bulk fuel-storage facility located in the upland area west of Runway 18-36. It occupies an area of approximately 55 acres situated on a hill with steeply sloped margins. The site is approximately 200 feet south of Yakutat Creek and approximately 900 feet west of South Sweeper Creek.

When constructed in 1943, the facility consisted of 45 bulk storage FCTs ranging in capacity from 21,000 to 420,000 gallons. The FCTs were primarily constructed above the ground surface. Some may have been partially buried or built into hillsides. The tanks were placed either on a thin concrete pad or compact earth. Fuel was transferred to, from, and throughout the tank farm by a system of underground pipelines. During the 1950s, many of the existing tanks were taken out service, and as many as 30 FCTs were crushed in place and buried. The records reviewed indicated that 43 FCTs were demolished in 1984 by crushing in place and covering with graded material and topsoil. The two remaining FCTs were removed in 1993.

A number of releases have been identified in the Tank Farm A area. During the 1950s, several FCTs were reported to be leaking, and fuel was observed seeping out of hillside soil into the creek adjacent to the former high school and NEX Building 10320. Several releases from underground fuel lines were identified in early 1989, some of which resulted in fuel reaching ditches and entering South Sweeper Creek. In 1989, Navy personnel constructed containment ponds and used oil-containment booms to contain and mitigate the migration of fuel from the source area. The abandoned pipelines were also isolated from the active pipelines.

Numerous previous investigations were performed at Tank Farm A and the surrounding areas. Eight monitoring wells were installed at Tank Farm A during expanded site investigations conducted between 1987 and 1988. The contractor concluded that the overall human health and environmental hazard was low, but recommended removal of fuel-contaminated soil and sediment.

A preliminary assessment of fuel contamination was performed in 1989, following a release of JP-5 from an abandoned pipeline located north of FCT-T8304. Visibly contaminated soils were reported extending northward from the abandoned pipeline to Hillside Boulevard. A soil vapor survey showed elevated petroleum vapors in the soil over a wide area north of the leak.

A three-phase investigation to define the extent of petroleum hydrocarbon impacts was performed from 1989 to 1990. This investigation concluded that as much as 1.2 million gallons of residual fuel may be present in approximately 146,000 cubic yards of soil in the Tank Farm A area (and extending into the area south of Runway 18-36). TPH concentrations greater than 1,000 mg/kg were found in soil samples collected from beneath removed sections of an underground JP-5 pipeline extending from Tank Farm D to Power Plant 3.

In 1993, TPH concentrations ranging between 2,000 mg/kg and 9,400 mg/kg were detected in soil samples collected in conjunction with removal of the last two FCTs and associated fuel-distribution piping.

During the release investigation conducted in 1993, concentrations of TPH as diesel fuel were reported above 2,000 mg/kg in 15 soil samples and above 1,000 µg/L in wells E-020 and E-024. Although visibly contaminated sediments were observed in stream bottoms in several locations, no petroleum hydrocarbons were detected in any surface water samples.

Between 1996 and 1997, four monitoring wells were installed. Soil and groundwater samples were collected from these borings, and 10 sediment and surface water sample pairs were collected from drainage ditches in Tank Farm A. No exceedance of the ADEC soil cleanup level for DRO was noted. One exceedance of the ADEC groundwater cleanup level for DRO was noted in the sample collected from well LC-5A (located near the traffic circle). No GRO exceedance was noted in either soil or groundwater. Benzene exceedances were noted in groundwater collected from wells E-006 and E-501. DRO was detected in seven of 10 sediment samples and in two of 10 surface water samples.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	215
Number of Pre-Rod Samples	418
Potential Contaminat Types Evaluated	Inorganics, Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Ground surface, Hand auger, Monitoring well, River/stream, Test Pit, Vault, Well, Wetlands

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemical exceeded these criteria (Table 10-3 of the OU A ROD):

Groundwater

- Benzene

RAOs:

The OU A ROD for the petroleum site SWMU 60 (Tank Farm A) established the following RAO for SWMU 60 (Table 7-4 of the OU A ROD):

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA with ICs. Natural attenuation monitoring was initiated in 1999 and is ongoing. ICs were implemented in 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 60.

In July 2010, four additional monitoring wells and two additional soil borings were installed downgradient of the site to determine the lateral extent of contamination and the impact of affected groundwater on Sweeper Creek at the Traffic Circle area in order to assess whether DRO is migrating to South Sweeper Creek at concentrations greater than ADEC surface water criteria.

Samples were collected for laboratory analysis from two intervals from all six locations. A total of 13 samples were submitted to the laboratory for DRO analysis by Alaska Method AK 102. DRO was detected in 10 of the 13 samples, from all six locations. Detected concentrations ranged from an estimated 14 mg/kg to 22,000 mg/kg. Depictions of the lateral extent of DRO in soil were revised based on these data, and data gaps regarding the lateral extent to the south of the site were identified.

Groundwater samples were collected from existing monitoring well LC5A and new wells 650, 651, and 652 on July 17, 2010. A sample was not collected from new well 653 because it contained 0.25 foot of free product. Samples were submitted for the following analyses: DRO by Alaska Method AK 102, VOCs by EPA Method 8260B, and SVOCs by EPA Method 8270C.

DRO was detected at a concentration exceeding the ADEC cleanup level in one well, and benzene was detected at a concentration exceeding the ADEC cleanup level in a different well. TAH and TAqH concentrations were detected in groundwater samples in excess of their respective surface water criteria in three of the four wells, including two wells (651 and 652) adjacent to South Sweeper Creek. Based on these data, it was concluded that TAH and TAqH concentrations in excess of surface water criteria may be migrating into the creek and additional evaluation was recommended.

SWMU 60 - Tank Farm A — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☑ Groundwater Monitoring
- ☐ Landfill Inspection
- ☑ Surface Water Monitoring
- ☑ IC Inspection — **Click to View ICMP Table**
- ☑ Sediment Monitoring
- ☐ Remediation System Monitoring and Maintenance
- ☐ Tissue Monitoring
- ☐ None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater, surface water, and sediments

Current Analytes Sampled BTEX, DRO, PAHs, NAPs, product thickness

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** SWMU60_MonCurr.pdf

SWMU 60 - Tank Farm A — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
852	Natural Recovery	Surface water and Sediment
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene	
2007	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene	
2008	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene	
2009	Surface water: DRO, GRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, GRO, 2-methylnaphthalene, phenanthrene	
2010	Surface water: DRO, TAH, TAqH, indeno(1,2,3-cd)pyrene Sediment: DRO, 2-methylnaphthalene, phenanthrene	

SWMU 60 - Tank Farm A — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
LC5A	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, NAPs	
2005	DRO, visual inspection	
2006	DRO, visual inspection	
2007	DRO, visual inspection	
2008	DRO, TAH, TAqH, visual inspection	
2009	DRO, TAH, TAqH, NAPs, visual inspection	
2010	DRO, TAH, TAqH, visual inspection	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW E006	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	BTEX, NAPs	
2005	BTEX	
2006	BTEX	
2007	BTEX	
2008	BTEX	
2009	BTEX, NAPs	
2010	Benzene	

SWMU 60 - Tank Farm A — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW E501	MNA	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-03	SW protection	Surface water and Sediment
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Surface water: DRO, TAH, TAqH. Sediment: DRO, BTEX	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Monitoring not planned	

SUMMARY OF INSPECTION RESULTS:

The Tank Farm A site is generally unused and ICs appear to be functioning as intended. Several pieces of U.S. Geological Survey seismic instrumentation are installed near the northeast corner of the site, consistent with the prescribed land use. Booms are present along South Sweeper Creek for sheen control.

The inspection in September 2010 found that the only apparent activity at the site was authorized soil borings and monitoring well installation, conducted in summer 2010, and that ICs are functioning as intended.

BIBLIOGRAPHY:

8, 13, 53, 84, 86, 90, 91, 113, 118, 125, 129, 134

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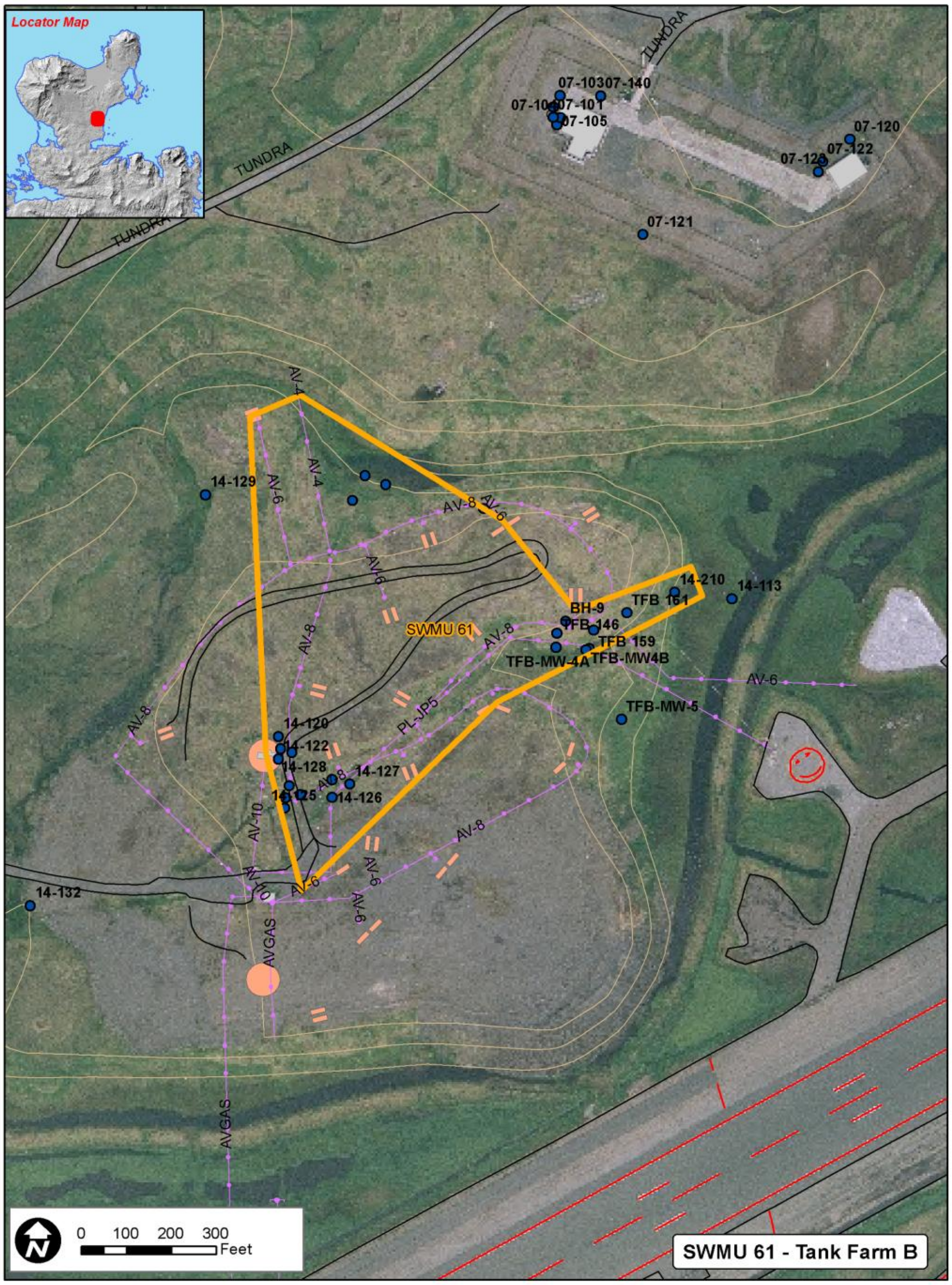
Adak Island, Alaska

SWMU 61 - Tank Farm B **OU A - SAERA**



STATUS: Groundwater, surface water, and sediment monitoring, as well as IC inspections. Additional investigation in 2010.

BACKGROUND:

Tank Farm B, designated SWMU 61, is located next to and north of Runway 5-23. Tank Farm B is surrounded on three sides by water. North Sweeper Creek is located at the base of the hill to the south and east. An unnamed creek, which flows into North Sweeper Creek, is located at the base of the hill to the north. When constructed in 1943, the facility originally consisted of forty 23,800-gallon USTs and one 420,000-gallon FCT, designated V156-A2. All of these tanks were originally used to store avgas and had a combined capacity of 1.37 million gallons. A second 420,000-gallon FCT (10262-A1) was constructed in 1958. This tank was originally used to store avgas, but was retrofitted to store JP-5 fuel and then mogas. The FCTs were primarily constructed beneath the ground surface. A pump house was located on top of each FCT. Fuel was transferred to, from, and throughout Tank Farm B by several pipelines ranging from 6 to 10 inches in diameter. The pipelines were connected to FCTs and USTs through valve pits (one valve pit per tank).

In 1992, results from a soil-gas survey identified two areas of elevated concentrations of volatile organic vapors in the subsurface, one on the east side of FCT 10262-A1 and the other on the south side of UST pair T8761-9A and B, where the tank system piping enters the main fuel distribution pipeline. These areas correspond to the locations previously identified as petroleum-release source areas.

During September 1993, 30 of the 40 USTs were removed at Tank Farm B. Soil samples collected from the floors and sidewalls of each excavation indicated the presence of petroleum hydrocarbons in the soil. Although no record of the removal of the 10 remaining USTs exists, a site survey using ground-penetrating radar and electromagnetic techniques did not confirm the presence of these tanks.

Removal of most of the aboveground sections of pipelines, plugging of abandoned underground sections of pipelines, and cleaning and disposing of piping and other debris at Tank Farm B was completed in 1993. Soil analytical results from soil samples collected from under valve pits and from below the removed aboveground pipeline sections and flanges indicated the presence of petroleum hydrocarbons in the soil. In 1996, FCT 10262-A1 was drained, isolated from the associated pipelines, cleaned, inspected, and placed on inactive status. Additional soil and groundwater samples were collected from areas identified in the previous investigations between 1996 and 1997. The 10-inch-diameter pipeline to fuel Pier A-1 was drained, cleaned, and abandoned in 2003.

Four areas where petroleum hydrocarbons were detected in soil samples collected during the previous investigations are described below:
(A) The central area is located approximately 20 feet east of FCT 10262-A1, extending approximately 130 feet south to the former valve pit and approximately 110 feet east to the blind flange on the inactive 6-inch-diameter fuel-transfer pipeline. DRO and GRO were detected in soil at concentrations of up to 11,800 mg/kg and 2,000 mg/kg, respectively.
(B) The east area is located south of former UST pair T8761-9A and B. DRO and GRO were detected in soil at concentrations of up to 220 mg/kg and 1,800 mg/kg, respectively. Lead was detected at a

concentration of 464 mg/kg in a sample collected from the area between the two valve pits associated with the former USTs.
(C) The north area is located at the northern margin of Tank Farm B, downslope from former UST pair T8767-12A and B. GRO was reported at a maximum concentration of 1,400 mg/kg.
(D) A second north area is located approximately 300 feet north of the valve pit where the 4-inch-diameter and 6-inch-diameter avgas pipelines intersect. DRO was reported at a concentration of 383 mg/kg in one sample.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	130
Number of Pre-Rod Samples	197
Potential Contaminat Types Evaluated	Biological, Herbicides, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sediment , Soil, Sub-surface soil (> 6"), Surface soil (less than 6 inches), Surface water, Tissue
Types of Pre-ROD Locations	Borehole/Soil boring, Excavation, Ground surface, Hand auger, Monitoring well, River/stream, Tank, Vault, Well

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 and Table 10-3 of the OU A ROD):

Groundwater

- Benzene
- Ethylbenzene
- GRO
- Toluene

In 1996, the site was screened using the ADEC supplemental criteria and was retained, because the maximum DRO concentration in surface soil (11,800 mg/kg) exceeded the screening level of 5,000 mg/kg for industrial sites, and the maximum GRO concentrations in subsurface soils (2,000 mg/kg) exceeded the screening level of 1,400 mg/kg. DRO, GRO, and BTEX were detected at Tank Farm B in groundwater at wells TFB-MW4A and TFB-MW4B. The OU A ROD (1999) did not identify human health or ecological risks associated with the site.

RAOs:

The OU A ROD for the petroleum site SWMU 61 (Tank Farm B) established the following RAO for SWMU 61 (Table 7-4 of the OU A ROD):

- Mitigate potential for downgradient migration.

REMEDY IMPLEMENTATION:

The OU A ROD-specified remedy for this site is MNA with ICs.

Natural attenuation groundwater monitoring was initiated in 1999 and is on-going. New well 14-113 was installed in 2003 to monitor natural attenuation conditions adjacent to North Sweeper Creek and to provide for surface water protection monitoring. Visual inspections of the North Sweeper Creek shoreline for petroleum seeps and sheen were added to the monitoring plan in 2005. ICs were implemented in 2000. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.

The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 61.

In 2009, additional sediment and surface water samples were collected at SWMU 61 along North Sweeper Creek to support Engineering Evaluation/Cost Analyses activities and determine whether petroleum compounds are migrating to North Sweeper Creek. The additional samples were taken upgradient and downgradient of an existing sediment/surface water monitoring station downgradient of the source area. At the downgradient sample location, odor and sheen were noted in surface water and/or sediment and analytical results indicated GRO and DRO were present in sediment at concentrations exceeding the risk-based cleanup level established for the South of Runway 18/36 site. However, these cleanup levels may not correlate to risks associated with the SWMU 61, Tank Farm B site; therefore site-specific risk-based endpoint criteria may need to be developed to determine if sediments are being impacted by onsite contamination at unacceptable levels of risk.

In 2010, additional site characterization activities were performed at SWMU 61 to further assess the lateral extent of petroleum-impacted soils in support of a soil excavation remedy for source removal. Seven hand auger borings were advanced to further define the extent of TPH in soil at a maximum depth of 7.5 feet bgs in July 2010. Fourteen soil samples were collected from the borings (two depths in each boring) and analyzed for GRO by Alaska Method AK 101.

GRO was not detected in seven of the 14 samples. Detected GRO concentrations ranged from 3.1 J mg/kg (estimated) to 590 mg/kg. GRO concentrations in one sample exceeded the ADEC cleanup level of 260 mg/kg. The exceedance was present in sample 14-705-1, collected from a depth of 1 foot bgs.

These sample results were compared to previous soil sample results from the same area and it was concluded that natural attenuation is occurring at the site.

SWMU 61 - Tank Farm B — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [x] Surface Water Monitoring
- [x] IC Inspection — **Click to View ICMP Table**
- [x] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater, surface water, and sediment

Current Analytes Sampled BTEX, DRO, PAHs, NAPs, GRO, product thickness

Current Monitoring **Click to View Current Monitoring** **Monitoring File:** SWMU61_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
14-113	MNA, SW protection	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	GRO, BTEX, NAPs	
2004	GRO, BTEX, NAPs, visual inspection	
2005	GRO, BTEX, visual inspection	
2006	GRO, BTEX, visual inspection	
2007	GRO, BTEX, TAH, TAqH, visual inspection	
2008	GRO, BTEX, TAH, TAqH, visual inspection	
2009	GRO, DRO, BTEX, TAH, TAqH, NAPs, visual inspection	
2010	GRO, BTEX, TAH, TAqH, visual inspection	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
14-210	MNA, SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	GRO, BTEX, NAPs	
2004	GRO, BTEX, NAPs	
2005	GRO, BTEX, visual inspection	
2006	GRO, BTEX, visual inspection	
2007	GRO, BTEX, visual inspection	
2008	GRO, BTEX, visual inspection	
2009	GRO, BTEX, NAPs	
2010	GRO, BTEX, visual inspection	

SWMU 61 - Tank Farm B — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-04	SW protection	Surface water and Sediment
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Surface water: GRO, TAH, TAqH Sediment: GRO, BTEX	
2008	Surface water: GRO, TAH, TAqH Sediment: GRO, BTEX	
2009	Surface water: DRO, GRO, TAH, TAqH Sediment: DRO, GRO BTEX	
2010	Surface water: DRO, GRO, TAH, TAqH Sediment: DRO, GRO BTEX	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-D-04	SW protection	Surface water and Sediment
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Surface water: DRO, GRO, TAH, TAqH Sediment: DRO, GRO, BTEX	
2010	Surface water: DRO, GRO, TAH, TAqH Sediment: DRO, GRO, BTEX	

SWMU 61 - Tank Farm B — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-U-04	SW protection	Surface water and Sediment

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	Monitoring not planned
2008	Monitoring not planned
2009	Surface water: DRO, GRO, TAH, TAqH Sediment: DRO, GRO, BTEX
2010	Monitoring discontinued

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
TFB-MW-4A	MNA	Groundwater

1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs
2002	GRO, BTEX, DRO, RRO, NAPs
2003	GRO, BTEX, NAPs
2004	Met endpoint criteria; monitoring discontinued

SWMU 61 - Tank Farm B — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
TFB-MW-4B	MNA	Groundwater

1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs
2002	GRO, BTEX, DRO, RRO, NAPs
2003	GRO, BTEX, NAPs
2004	GRO, BTEX, NAPs
2005	GRO, BTEX
2006	GRO, BTEX
2007	GRO, BTEX
2008	GRO, BTEX
2009	GRO, DRO, BTEX, NAPs
2010	GRO, BTEX

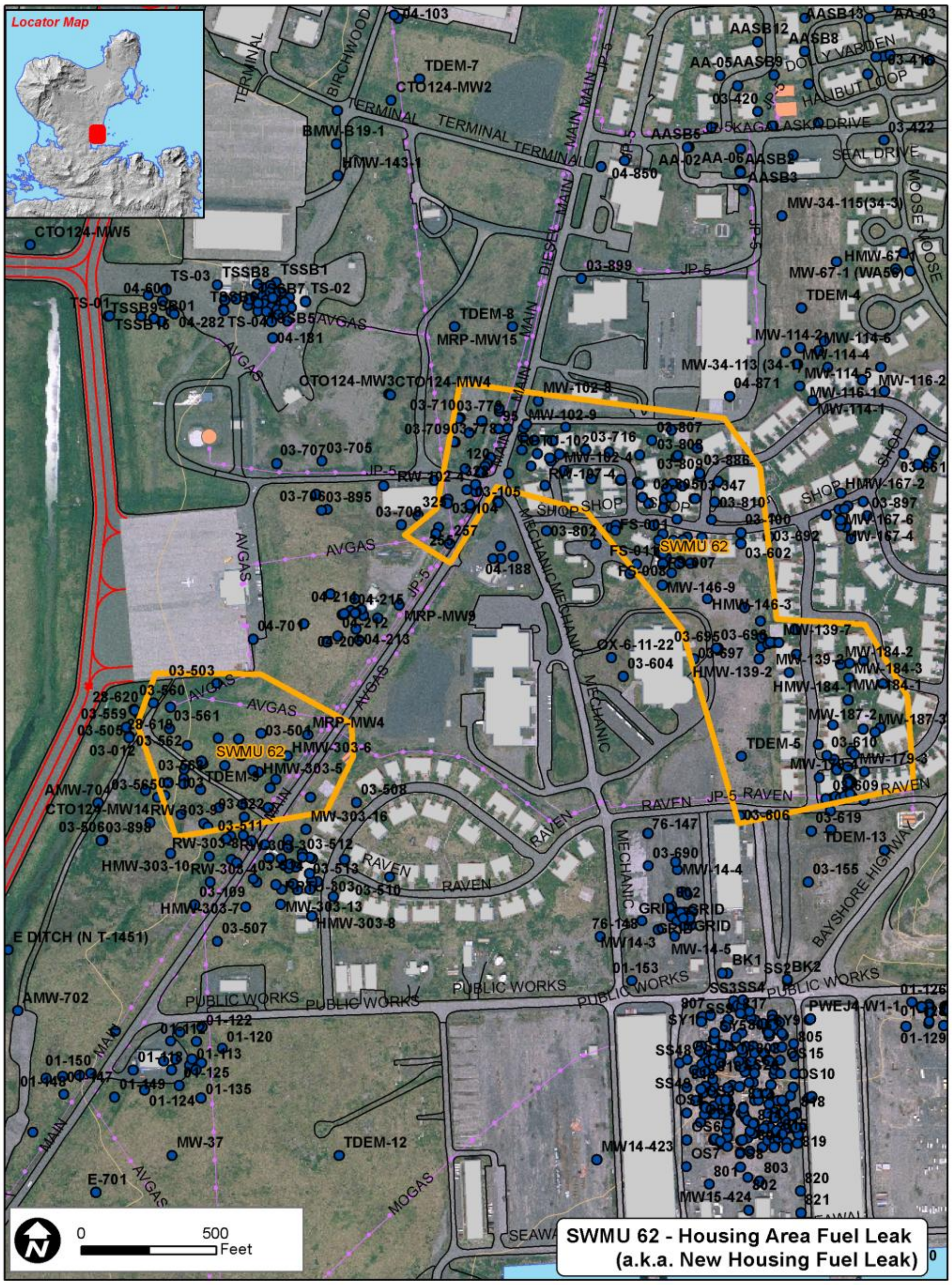
SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity and that ICs are functioning as intended. Several authorized soil borings were installed during summer 2010 during additional site characterization activities.

BIBLIOGRAPHY:

7, 26, 46, 84, 86, 90, 91, 113, 118, 125, 129, 132, 134

SWMU 62 - Housing Area Fuel Leak | **OU A - SAERA**



SWMU 62 - Housing Area Fuel Leak OU A - SAERA

STATUS: Groundwater monitoring, free product recovery, and IC inspections.

BACKGROUND:

SWMU 62, New Housing Fuel Leak, is located in the downtown area of Adak, east of Runway 18-36, north of Public Works Road, west of Bayshore Highway, and south of Kagalaska Drive. SWMU 62 occupies an area of approximately 100 acres and includes Sandy Cove Housing, Eagle Bay Housing, Turnkey Housing, two school buildings and yards, and miscellaneous facilities.

Initial investigation reports for SWMU 62 divided the three housing areas according to the proximity of leaks, apparent extent of free product, and individual housing units. The subdivisions are as follows:
(A) Sandy Cove Housing: Unit 102, Units 107 and 146, Units 114, 116, 160, and 167, and Units 134, 139, 179, 184, and 187
(B) Eagle Bay Housing Unit 303
(C) Turnkey Housing Unit 67

Each housing unit is supplied with JP-5 heating fuel from one or two 500-gallon ASTs, installed in 1998 to replace the former distribution and storage system. Prior to the installation of the 500-gallon ASTs, JP-5 heating fuel was distributed to the housing units through a network of underground piping. The fuel was stored in several large ASTs that were filled via piping connected to the Sandy Cove, Eagle Bay, and Turnkey Housing tank farms.

Groundwater is found as both a laterally discontinuous perched layer and a regional water table aquifer beneath SWMU 62. Groundwater appears to flow toward Kuluk Bay, the East Canal, and Sweeper Cove, depending on its proximity to each.

In 1988 and 1989, the Navy conducted reviews of inventory records and visual site inspections in housing units and crawl spaces after occupants reported hydrocarbon-like odors. As a result of the visual inspections, five piping fuel leaks were discovered and repaired. Because of these detected leaks, the heating fuel distribution system was pressure tested. As a result of the pressure testing, 16 additional piping leaks were detected and repaired: 13 in Sandy Cove, two in Eagle Bay, and one in Turnkey Housing. The substance released from the pipes was JP-5; however, the volume of the release has not been determined. Based on the results from these investigations, approximately 102 cubic yards of surface soil was removed from beneath the housing units. The excavated material was replaced with clean sand, and vapor barriers were installed and sealed to the housing unit foundations.

Free product was encountered in 46 of 109 monitoring wells installed in 1989. Ten recovery wells were installed in Sandy Cove Housing, six recovery wells were installed in Eagle Bay Housing, and one product recovery trench was installed adjacent to and west of Sandy Cove Housing Unit 167 as an interim remedial action. Free product was not measured in Turnkey Housing wells. A total of 45 additional monitoring wells and 10 recovery wells were installed in 1993 to evaluate existing conditions.

A separate release investigation was conducted in 1993 to evaluate potential petroleum-related contamination along the Main Road Pipeline (6-inch JP-5). DRO concentrations of 20,000 mg/kg in soil and 4,100 µg/L in groundwater were detected in samples collected from MRP-MW1. GRO was reported at 1,700 mg/kg in the soil sample from MRP-MW4. Free product was detected in one well (MRP-MW1) that was installed within the free product plume associated with the Sandy Cove Housing Unit 102 area.

Between 1996 and 1999, 48 monitoring and Geoprobe wells were installed. The maximum concentration of DRO detected in subsurface soil samples was 2,700 mg/kg in Unit 102 samples; 19,000 mg/kg in Units 107 and 146 samples; 12,000 mg/kg in Units 114, 116, 134, 139, 160, 167, 179, 184, and 187 samples; and 18,000 mg/kg in Unit 303 samples. The maximum concentration of DRO detected in groundwater was 18,000 µg/L in Unit 102 samples; 14,000 µg/L in Units 107 and 146 samples; 23,000 µg/L in Units 114, 116, 134, 139, 160, 167, 179, 184, and 187 samples; and 23,000 µg/L in Unit 303 samples.

Since site investigation activities began during 1989, more than 200 groundwater wells have been installed within the SWMU 62 site. These wells were periodically gauged for the presence of free product between November 1992 and October 2003. During this time period, free product was observed at a measurable thickness in 112 wells. In addition, a petroleum seep into the East Canal of the airport ditch system was identified west of the Eagle Bay Housing area.

Free product recovery efforts began in 1989. The free product recovery system operated regularly for the first year. After the first or second year of operation, maintenance issues appear to have resulted in intermittent operation of the system until 1993, when the system was inspected. The system was repaired and restarted in 1994. In 1996, installation of a new total fluids recovery system was completed and the system was started in October 1996. Since operation of the total fluids recovery system started in 1996, the system operated relatively continuously, except for planned shutdowns for well development and maintenance. The total volume of the free product recovered from November 1996 to May 2000 is approximately 18,000 gallons. The total volume of free product recovered since 1989 is approximately 154,000 gallons. This estimate is based on monthly progress reports and recovered volumes reported in previous investigations. The recovery system was shut down in May 2000.

Post-recovery monitoring was conducted at the New Housing Fuel Leak site for a two-year period following shutdown of the free-product recovery system. At the end of the two-year period, the Navy monitoring contractor determined that post-recovery monitoring could be discontinued at the site. The Navy estimates that between 1,400 and 6,900 gallons of recoverable free product remain in the subsurface at the New Housing Fuel Leak site. The recovery system was shut down in May 2000, but additional remedial activities were implemented via a SAERA decision document in 2006. Further discussion is presented in the Remedy Implementation section below.

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	224
Number of Pre-Rod Samples	666
Potential Contaminat Types Evaluated	Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sediment , Soil gas, Soil, Sub-surface soil (> 6"), Surface water
Types of Pre-ROD Locations	Borehole/Soil boring, Channel/Ditch, Direct Push/Geoprobe, Excavation, Geoprobe well, Hand auger, Hydropunch, Monitoring well, Recovery well, Well

COCs AND RISKS:

SWMU 62 was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery. The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

Groundwater

- Benzene
- DRO
- Ethylbenzene
- GRO
- Toluene

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004 as part of the follow-on assessment under SAERA. SWMU 62 cleanup levels specified for soil are based on ADEC Method Four Criteria [18 AAC 75.340(a)(4)], which uses site-specific risk assessments to establish ACLs. Cleanup levels specified for groundwater are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C]. The human health risk assessment for this site established that the existing concentrations in surface water and sediment do not pose an unacceptable risk to humans. In addition, the ecological risk assessment established that no ecological threat exists for any ecological receptor from petroleum hydrocarbons released at the SWMU 62 site. Therefore, no risk-based cleanup levels were calculated for surface water or sediment at the site and no cleanup is necessary.

The 2006 Final Decision Document for the South of Runway 18-36 Area established the following cleanup levels based on ADEC regulatory criteria for the following COCs:

Groundwater

- Benzene
- DRO
- Ethylbenzene
- GRO
- Toluene

Soil

- DRO

RAOs:

The OU A ROD for SWMU 62 established the following original RAOs (Table 7-4 of the OU A ROD):

- Mitigate potential for downgradient migration.
- Reduce volume of petroleum free product.

The RAOs were revised in the 2006 Final Decision Document for SWMU 62 to the following (for the protection of human health):

- Prevent migration of free product to surface water that would result in an exceedance of the Alaska DEC surface water quality standard (sheen only)
- Minimize exposure to free-phase product in soil, groundwater, and surface water
- Reduce petroleum hydrocarbons in groundwater to concentrations less than or equal to the Alaska DEC groundwater cleanup levels established for groundwater used as a drinking water source
- Prevent human exposure to petroleum hydrocarbons in surface soil that would result in adverse health effects.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery.

Active product recovery as an interim action was initiated during January 1989 and was terminated during May 2000. Approximately 154,000 gallons of free product was removed.

The August 2006 decision document prepared under SAERA specified the final remedy as ICs, free product containment and passive recovery, surface soil excavation, and MNA. ICs required by the 2006 decision document were already in place when the decision document was executed. The CMP was modified as needed to incorporate the groundwater MNA component of the final remedy.

Surface soil excavation was conducted from June 28 to July 6. Soil at the identified hot spot was excavated to a depth of 2 feet and proceeded radially outward from the center of the excavation until soils were confirmed clean through field test kit and laboratory analysis. A total of 187 cubic yards of soil were removed from an area approximately 50 feet by 50 feet by 2 feet deep. The excavation was limited to 2 feet bgs by the work plan, and lateral excavation in one area was limited by the presence of a concrete foundation. The rationale for the 2 foot deep excavation was not presented in the workplan or closure report.

Eight confirmation soil samples were collected following excavation: two floor samples and six sidewall samples. DRO and RRO was detected in all eight of the samples, and the DRO concentrations exceeded the cleanup level of 6,111 mg/kg in one floor sample and one sidewall sample (near the concrete foundation). The maximum DRO concentration in the confirmation soil samples was 24,000 mg/kg. The soil represented by these samples was left in place, covered with Visqueen, and then covered with 2 feet of clean backfill soil.

As part of implementing the passive free product recovery and containment component of the final remedy, a 300-foot-long recovery trench was installed between September 15 and October 3, 2006 at SWMU 62 adjacent to the East Canal. The recovery trench provides a zone of increased permeability to enhance collection of free product through employment of passive collection equipment, with the further addition of a downgradient impermeable liner to prevent migration of petroleum contaminants into the East Canal. Six recovery wells (sumps) were installed within the trench at 50-foot intervals, and provide the means of deploying passive product collection.

Four new monitoring/recovery wells also were installed in 2006.

Booms in the East Canal drainage were replaced in September 2006 and have been monitored since.

Also, as part of implementing the product recovery component of the final remedy, free product recovery devices were installed in wells at the site and within the product recovery trench sumps. Sorbent socks were installed for fuel recovery at any location showing a product thickness greater than 0.01 foot but less than 0.1 foot. Passive skimmers were installed at locations showing between 0.11 and 0.5 foot, and an automated system installed at locations showing a product thickness greater than 0.5 foot, or wherever passive skimmer capacity was exceeded for the period between monitoring events. An automated recovery system was installed in 2006 for four locations (03-518, HMW-303-3, HMW-303-5, and HMW-303-11). The system was adjusted in the field to efficiently recover the greatest amount of fuel and the least amount of water.

Water level and product thicknesses were checked once per week in September 2006 at 47 well locations. Thirty wells had measurable product thicknesses during this month. The maximum product thickness measured in September was 2.70 feet at HMW-102-1 on September 4, 2006.

In 2009, an additional sediment and surface water sample were each collected at SWMU 62 on the eastern shore of East Canal, downgradient of the product recovery trench. Analytical results indicated DRO was present in sediment at a concentration exceeding the risk-based cleanup level established for the South of Runway 18/36 site. However, these cleanup levels may not correlate to risks associated with the SWMU 62 site; therefore site-specific risk-based endpoint criteria may need to be developed to determine if sediments are being impacted by onsite contamination at unacceptable levels of risk.

Free product recovery is ongoing.

Environmental Restoration Site Report
Adak Island, Alaska

SWMU 62 - Housing Area Fuel Leak | OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection — Click to View ICMP Table
- [ ] Sediment Monitoring
- [x] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled GRO, BTEX, DRO, NAPs, product thickness

Current Monitoring Click to View Current Monitoring **Monitoring File:** SWMU62_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-012	FFS	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-101	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-102	PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-103	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-104	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Free product detected, not sampled, product thickness (monthly)	
2007	DRO, GRO, BTEX, product thickness (monthly)	
2008	DRO, GRO, BTEX, product thickness (monthly)	
2009	DRO, GRO, BTEX, NAPs, product thickness (monthly)	
2010	DRO, GRO, BTEX	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-107	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-109	MNA, SW protection, PT	Groundwater

1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs
2002	GRO, BTEX, DRO, RRO, total and dissolved lead, NAPs
2003	Met endpoint criteria; monitoring discontinued
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-155	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	DRO, GRO, BTEX, NAPs
2004	DRO, GRO, BTEX, NAPs
2005	DRO, GRO, BTEX
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-502	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-518	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-619	FFS, MNA, PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Discontinued monitoring; DRO detected above criteria; use another sentinel well	
2006	Monitoring not planned	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-695	FFS	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-696	FFS, PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-697	FFS, MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-778	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-802	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-895	FFS, MNA, PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	Monitoring not planned	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-896	FFS	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-897	FFS	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-898	FFS, MNA, SW protection, PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
AMW-704	FFS, MNA, SW protection, PT	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	Met endpoint criteria; monitoring discontinued	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
CTO-124-MW14	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
CTO-124-MW15	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-102-1	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-102-6	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-102-8	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	Product thickness
2008	Monitoring not planned
2009	Monitoring not planned
2010	Monitoring not planned

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-107-2	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Monitoring not planned
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-139-2	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-139-3	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-146-1	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-146-3	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-1	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-10	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-11	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-12	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs, product thickness (monthly)
2007	DRO, GRO, BTEX, product thickness (monthly)
2008	DRO, GRO, BTEX, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs, product thickness (monthly)
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-2	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-3	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

SWMU 62 - Housing Area Fuel Leak OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-4	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-5	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
HMW-303-9	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MRP-MW-2	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	Well dry, not sampled	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MRP-MW-3	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	Free product detected, not sampled, product thickness
2009	DRO, GRO, BTEX, NAPs
2010	Free product detected, not sampled, product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-102-4	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-107-1	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-107-11	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-134-10	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-134-11	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	DRO, GRO, BTEX
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO, GRO, BTEX
2006	DRO, GRO, BTEX, NAPs
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-134-8	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Well destroyed

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-139-2	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Sample tubing clogged with biomaterial, no sample collected, product thickness
2007	Product thickness
2008	Monitoring not planned
2009	Monitoring not planned
2010	Monitoring not planned

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-146-1	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-146-6	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Well abandoned, MW-146-1 sampled as replacement	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-187-1	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-1	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-10	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-12	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-14	MNA, PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	DRO, GRO, BTEX, NAPs	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, GRO, BTEX, NAPs	
2010	DRO, GRO, BTEX	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-18	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-5	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-7	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-8	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
NL-09	SW protection	Surface water and Sediment
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Surface water: DRO, GRO, BTEX, TAH, TAqH Sediment: DRO, GRO, BTEX, PAHs	

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-102-2	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Replaced with HMW-102-8 for 2006
2007	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-102-4	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-11	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-12	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-13	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs, product thickness (monthly)
2007	RW-303-15 accidentally sampled instead of this location, product thickness (monthly)
2008	DRO, GRO, BTEX, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs, product thickness (monthly)
2010	DRO, GRO, BTEX, product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-14	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs, product thickness (monthly)
2007	DRO, GRO, BTEX, product thickness (monthly)
2008	DRO, GRO, BTEX, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-15	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	DRO, GRO, BTEX, product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-16	MNA, SW protection, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX, NAPs, product thickness (monthly)
2007	DRO, GRO, BTEX, product thickness (monthly)
2008	DRO, GRO, BTEX, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, BTEX

SWMU 62 - Housing Area Fuel Leak | OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-4	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-6	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness
2010	Product thickness

SWMU 62 - Housing Area Fuel Leak — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-7	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
RW-303-9	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness	
2010	Product thickness	

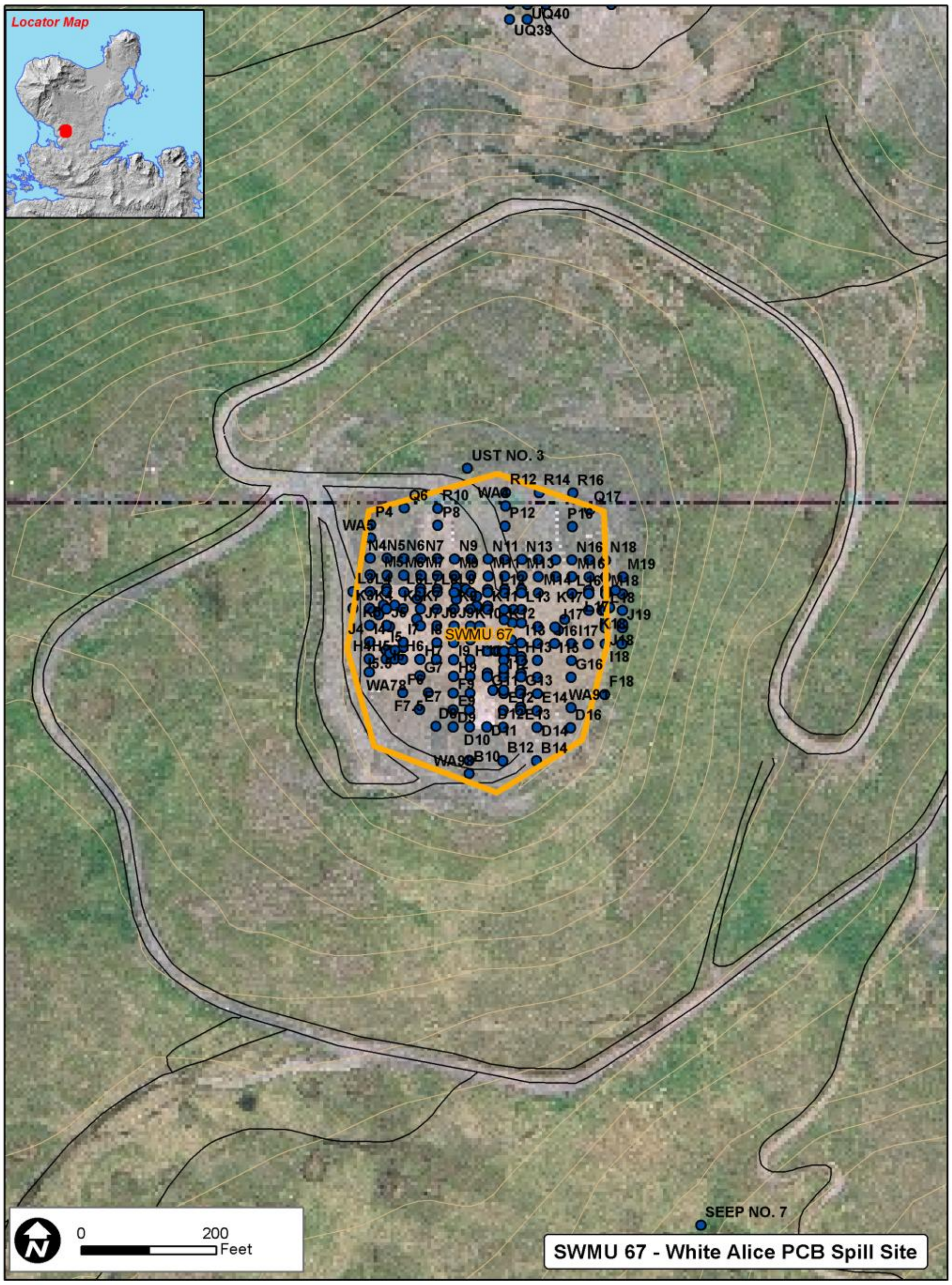
SUMMARY OF INSPECTION RESULTS:

The inspection in September 2010 found that the site has had no apparent activity and that ICs are functioning as intended. The 2010 IC report recommended that it be determined whether the four fuel recovery systems located in the Sandy Cove housing complex post a threat to residents, site soils or groundwater.

BIBLIOGRAPHY:

50, 59, 62, 84, 86, 90, 91, 96, 110, 125, 129, 132, 134

SWMU 67 - White Alice PCB Spill Site — **OU A**



SWMU 67 - White Alice PCB Spill Site OU A

STATUS: IC inspections.

BACKGROUND:

SWMU 67, the White Alice PCB Spill Site (formerly called Site 22), is a former military communications complex located approximately 2 miles west of downtown Adak. Prior to the removal action in 1997, the site consisted of the remains of three building foundations, abandoned concrete pads, and eight DEW Line radar nets.

SWMU 67 is situated on a flattened hilltop approximately 595 feet above MLLW. The slopes of the surrounding hillsides vary, exceeding 50 percent in some areas. The site occupies the highest topographic point in the vicinity.

The White Alice Complex was constructed in 1956 and consisted of large transmitting and receiving dish antennae. The complex was dismantled between 1980 and 1982. According to the initial assessment study report, the demolition contractor drained fluids containing PCBs from 51 transformers into 55-gallon drums prior to removing electrical equipment. During this process, an unknown volume of transformer oil was spilled inside and outside the easternmost building of the White Alice Complex.

Two USTs containing JP-5 were removed from the White Alice Complex during the summer of 1994. Approximately 200 cubic yards of soils were determined to be impacted by chemicals associated with the tanks. No soils were removed from the site during the tank removal.

Following the PSE-2 of SWMU 67, an interim removal action was conducted in 1997 consisting of transporting approximately 984 cubic yards of soils from Site 16A stockpiles (located adjacent to SWMU 16) containing PCBs (less than 50 mg/kg) to SWMU 67, and constructing a multi-layered impermeable cap over the areas of highest observed contamination (soil with more than 25 mg/kg PCBs) to prevent migration of PCBs from the site. The cap also covers the soils transported from Site 16A. The work performed at SWMU 67 did not conform exactly to the previously published plans, in that the boundary of the multi-layered cap extends farther than originally planned.

Analytical results of surface and subsurface soil and sediment samples were used to assess human health and ecological risk based on post removal conditions.

SWMU 67 - White Alice PCB Spill Site OU A

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	215
Number of Pre-Rod Samples	308
Potential Contaminat Types Evaluated	Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Sediment , Sub-surface soil (> 6"), Surface soil (less than 6 inches)
Types of Pre-ROD Locations	Borehole/Soil boring, Excavation, Ground surface, Spring/Seep, Test Pit

COCs AND RISKS:

No COCs were identified in the OU A ROD. Aroclors were major ecological risk drivers in sediment and surface soil.

A residential scenario was not evaluated, because establishing a residence at this location was determined not to be feasible. The cancer and noncancer risks, based on other human health scenarios, were below levels of concern (Table 6-4 of the OU A ROD). The ecological HI from sediment and surface soil was estimated to be 68 and 86, respectively, primarily from Aroclor 1260 (Tables 6-6 and 6-7 of the OU A ROD). Capping reduced the ecological risk by more than 99 percent. Detections of the residual PCBs in the soil outside the cap were infrequent and discontinuous. Downgradient seeps where sediments were collected do not provide significant habitat for receptors. Therefore, the ecological risks are negligible.

RAOs:

The OU A ROD for the CERCLA site SWMU 67, White Alice PCB Spill Site established the following RAOs for SWMU 67 (interpreted from Table 7-2 of the OU A ROD):

- Prevent human and ecological exposure to PCBs in soil that would result in adverse health effects.

SWMU 67 - White Alice PCB Spill Site — OU A

REMEDY IMPLEMENTATION:

The remedy selected for this site in the OU A ROD was ICs.

ICs were implemented in 2000 following execution of the OU A ROD. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. Excavation notification is required at all sites, including SWMU 67. IC inspections, including inspection of the cap, are required under the ICMP.

SWMU 67 - White Alice PCB Spill Site — OU A

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection — Click to View ICMP Table
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date June 1998 — **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required — **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

The Alaska Volcanic Observatory has several pieces of monitoring instrumentation installed at the site.

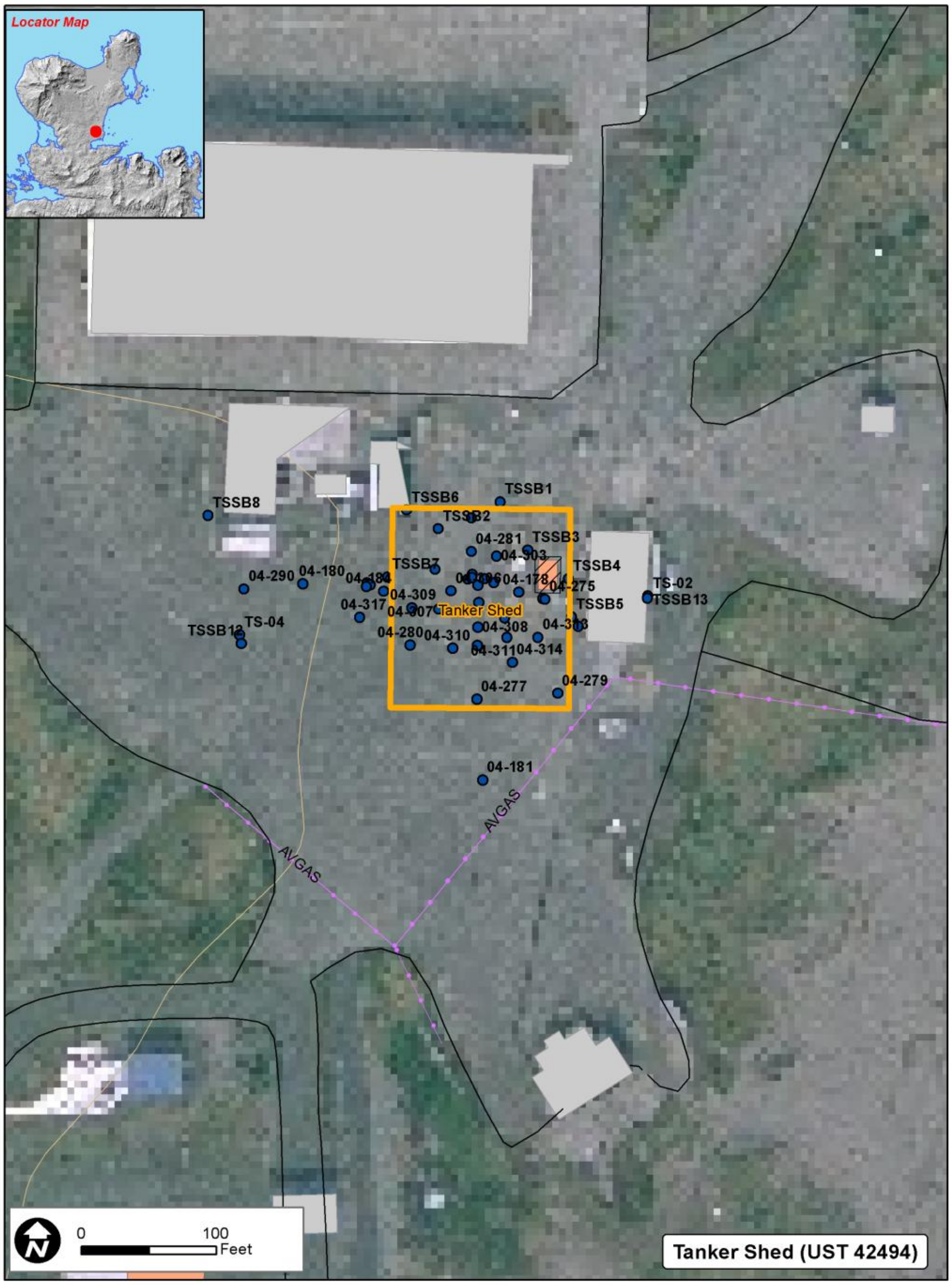
The inspection in September 2010 found that the site has had no apparent activity and that Ics are functioning as intended. The site inspection conducted in August 2010 in support of the five-year review recommends that additional signs at the bottom of the hill would improve notification regarding excavation restrictions.

BIBLIOGRAPHY:

9, 13, 16, 17, 62, 64, 65, 84, 86, 113, 125, 129

Environmental Restoration Site Report
Adak Island, Alaska

Tanker Shed (UST 42494)	OU A - SAERA



Tanker Shed (UST 42494) OU A - SAERA

STATUS: Groundwater monitoring, IC inspections.

BACKGROUND:

The Tanker Shed is located approximately at the midpoint between Main Road and Runway 18-36 in downtown Adak. The Tanker Shed was used to perform maintenance on the tanker trucks that transport fuel for the housing area heating system and for aircraft refueling. The Tanker Shed building is currently unused. It is not known when the Tanker Shed was built, but it was likely in the 1960s, based on the type of construction. The dimensions of the Tanker Shed are approximately 40 by 80 feet. UST 42494 was located near the southwest corner of the Tanker Shed. The centerline of the UST was parallel to and 30 feet from the west wall of the building. The 6000-gallon UST 42494 was installed in 1985 to collect used oil generated during vehicle maintenance and to collect fluids from the oil/water separator system. The oil/water separator system was connected to the catch basin associated with the truck wash rack.

Most of the land surface around the Tanker Shed is flat and paved with concrete or asphalt. The land surface immediately east of the building is unimproved and covered with tundra grass. The regional topography in this vicinity slopes to the west. The closest downgradient surface water body is East Canal, located approximately 800 feet west of former UST 42494.

The UST was reported to be in good condition when removed in 1995, with no cracks, dents, deformities, or holes. DRO concentrations exceeded the Alaska soil matrix level in two soil samples collected from the bottom of the excavation. A petroleum hydrocarbon sheen was observed on groundwater within the UST excavation. The associated underground piping was removed to the edge of the excavation, and the cut ends were capped with concrete. There was no record that a spill or release occurred directly from the UST. The likely source of the petroleum hydrocarbons at the site is from overfilling or piping leakage.

During the investigation conducted between 1996 and 1997 at the site, one 2-inch-diameter monitoring well, eleven 4-inch-diameter recovery wells, five 6-inch-diameter recovery wells, one ½-inch-diameter monitoring well, seven hollow-stem auger soil borings, and 15 Geoprobe soil borings were installed at the site to delimit the horizontal extent of free product and petroleum-affected soils. DRO concentrations exceeded the Alaska cleanup level in soil samples collected from 14 locations, and exceedances of GRO in soil were noted at four locations. DRO, GRO, and benzene concentrations in groundwater exceeded ADEC groundwater cleanup levels (used as a drinking water source) in five, five, and seven samples, respectively. Two of these wells were resampled in 1997. Although DRO, GRO, and benzene concentrations were less than those in samples collected in 1996, they still exceeded Alaska groundwater cleanup criteria.

Two downgradient wells (04-317 and 04-601) were installed in 1998, and groundwater samples were collected from well 04-317 in 1998 and 2001. DRO and benzene exceedances were reported in 1998 and 2001, and GRO exceedances of the ROD-established Alaska groundwater criteria (18 AAC 75.345 Table C values) were reported in 2001. Groundwater samples were collected from well 04-601 between 1999 and 2002 as part of the Comprehensive Monitoring Program. Benzene and DRO exceedances of the ROD-established Alaska groundwater criteria (18 AAC 75.345 Table C values) were reported.

In 2001, a supplemental site assessment was conducted to address data gaps.

Tanker Shed (UST 42494) — OU A - SAERA

Free product recovery was conducted as an interim action began at the Tanker Shed site in January 1997.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	67
Number of Pre-Rod Samples	138
Potential Contaminat Types Evaluated	Inorganics, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Excavation, Monitoring well, Pipeline, Recovery well, Well

Tanker Shed (UST 42494) OU A - SAERA

COCs AND RISKS:

Tanker Shed was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery. The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

Groundwater

- Benzene
- DRO

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site during 2004, as part of the follow-on evaluation under SAERA. This sites poses no unacceptable risk to human health or the environment above target health goals, provided that Ics remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at the Tanker Shed site is considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for this site are those specified in Table C of 18 AAC 75.345(b)(1).

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established the following cleanup levels based on ADEC regulatory criteria for the following COCs:

Groundwater

- Benzene
- DRO
- GRO

RAOs:

The OU A ROD for the petroleum site Tanker Shed (UST 42494) established the following original RAOs for the Tanker Shed (Table 7-4 of the OU A ROD):

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to

levels below Alaska DEC groundwater cleanup levels.
- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery. The decision document prepared by the Navy and ADEC under SAERA specifies the final remedy as free product recovery, MNA, and ICs.

Free product recovery as an interim action was conducted at the Tanker Shed site from January 1997 through November 2001. Approximately 528 gallons of free product were recovered at the Tanker Shed during this five-year period. The product recovery system was shut down for the winter on November 12, 2001, and did not operate during 2002 or 2003. Product recovery activities restarted in August 2004 and continued until July 2005. Free product recovery as part of the final remedy concluded at this site in July 2005, as the practicable endpoint for free product recovery was reached. This was discussed in the free product recovery closure report for this site, approved by ADEC in January 2006.

Ics required by the 2006 decision document were already in place when the decision document was executed. ICs had been implemented in 2000, following execution of the OU A ROD. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites, including Tanker Shed.

The CMP was modified as needed to incorporate the groundwater MNA component of the final remedy. This remedy was implemented in 2005.

In addition to the required free product recovery, MNA, and IC components of the final remedy, the 2005 SAERA decision document required collection of one additional soil sample and installation of one additional groundwater monitoring well.

The required soil sample was collected on September 17, 2004 and analyzed for DRO, GRO, and BTEX to confirm the lateral extent of petroleum compounds in soil. The DRO, GRO, and BTEX detected in this soil sample were all well below the ADEC cleanup level.

The additional monitoring well was installed as required by the decision document during the 2006 field season. One soil sample was collected from the well bore at a depth of 7 to 8 feet bgs. GRO, DRO, RRO, and VOCs were not detected above their laboratory reporting limits in this sample. This well was subsequently incorporated into the monitoring program for Tanker Shed.

Tanker Shed (UST 42494) OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Free product recovery was discontinued in June 2010.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection [Click to View ICMP Table]
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Groundwater

Current Analytes Sampled DRO, GRO, benzene, product thickness

Current Monitoring Click to View Current Monitoring **Monitoring File:** TankerShed_MonCurr.pdf

Tanker Shed (UST 42494) — OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-175	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	DRO, GRO, BTEX	
2008	DRO, GRO	
2009	DRO, NAPs	
2010	DRO	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-176	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness (monthly)	
2007	Product thickness (monthly)	
2008	Product thickness (monthly)	
2009	Product thickness (monthly)	
2010	Product thickness (monthly)	

Tanker Shed (UST 42494) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-178	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-290	MNA	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO, GRO, BTEX
2006	DRO, GRO, BTEX
2007	DRO, GRO, BTEX
2008	DRO, GRO, BTEX
2009	DRO, GRO, BTEX, NAPs
2010	DRO, GRO, benzene

Tanker Shed (UST 42494) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-301	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-302	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

Tanker Shed (UST 42494) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-303	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-304	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

Tanker Shed (UST 42494) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-306	MNA, PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	DRO, GRO, BTEX
2006	Free product detected, not sampled, product thickness (monthly)
2007	Free product detected, not sampled, product thickness (monthly)
2008	DRO, GRO, BTEX, product thickness (monthly)
2009	DRO, GRO, BTEX, NAPs, product thickness (monthly)
2010	DRO, GRO, benzene, product thickness (monthly)

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-307	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

Tanker Shed (UST 42494) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-308	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness
2007	Product thickness
2008	Product thickness
2009	Product thickness
2010	Product thickness

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-309	PT	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Product thickness
2006	Product thickness (monthly)
2007	Product thickness (monthly)
2008	Product thickness (monthly)
2009	Product thickness (monthly)
2010	Product thickness (monthly)

Tanker Shed (UST 42494) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-310	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-311	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

Tanker Shed (UST 42494) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-312	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-313	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

Tanker Shed (UST 42494) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-314	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-317	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

Tanker Shed (UST 42494) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
04-601	MNA, SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO	
2002	DRO, RRO, GRO, BTEX, NAPs	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, GRO, BTEX, NAPs	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	DRO, GRO, BTEX	
2008	DRO, GRO, BTEX	
2009	DRO, NAPs	
2010	DRO, GRO, benzene (even years only)	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
TS-01	SW protection	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	DRO, GRO, BTEX, NAPs	
2004	DRO, GRO, BTEX, NAPs	
2005	DRO, GRO, BTEX	
2006	DRO, GRO, BTEX	
2007	DRO, GRO, BTEX	
2008	DRO, GRO (even years only)	
2009	Monitoring not planned	
2010	DRO, GRO	

Tanker Shed (UST 42494) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
TS-03	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
TS-04	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Product thickness	
2006	Product thickness	
2007	Product thickness	
2008	Product thickness	
2009	Product thickness	
2010	Product thickness	

Tanker Shed (UST 42494) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
TS-05d	SW protection	Groundwater

1999	Monitoring not planned
2000	Monitoring not planned
2001	Monitoring not planned
2002	Monitoring not planned
2003	Monitoring not planned
2004	Monitoring not planned
2005	Monitoring not planned
2006	DRO, GRO, BTEX
2007	DRO, GRO, BTEX
2008	DRO, GRO (even years only)
2009	Monitoring not planned
2010	DRO, GRO

SUMMARY OF INSPECTION RESULTS:

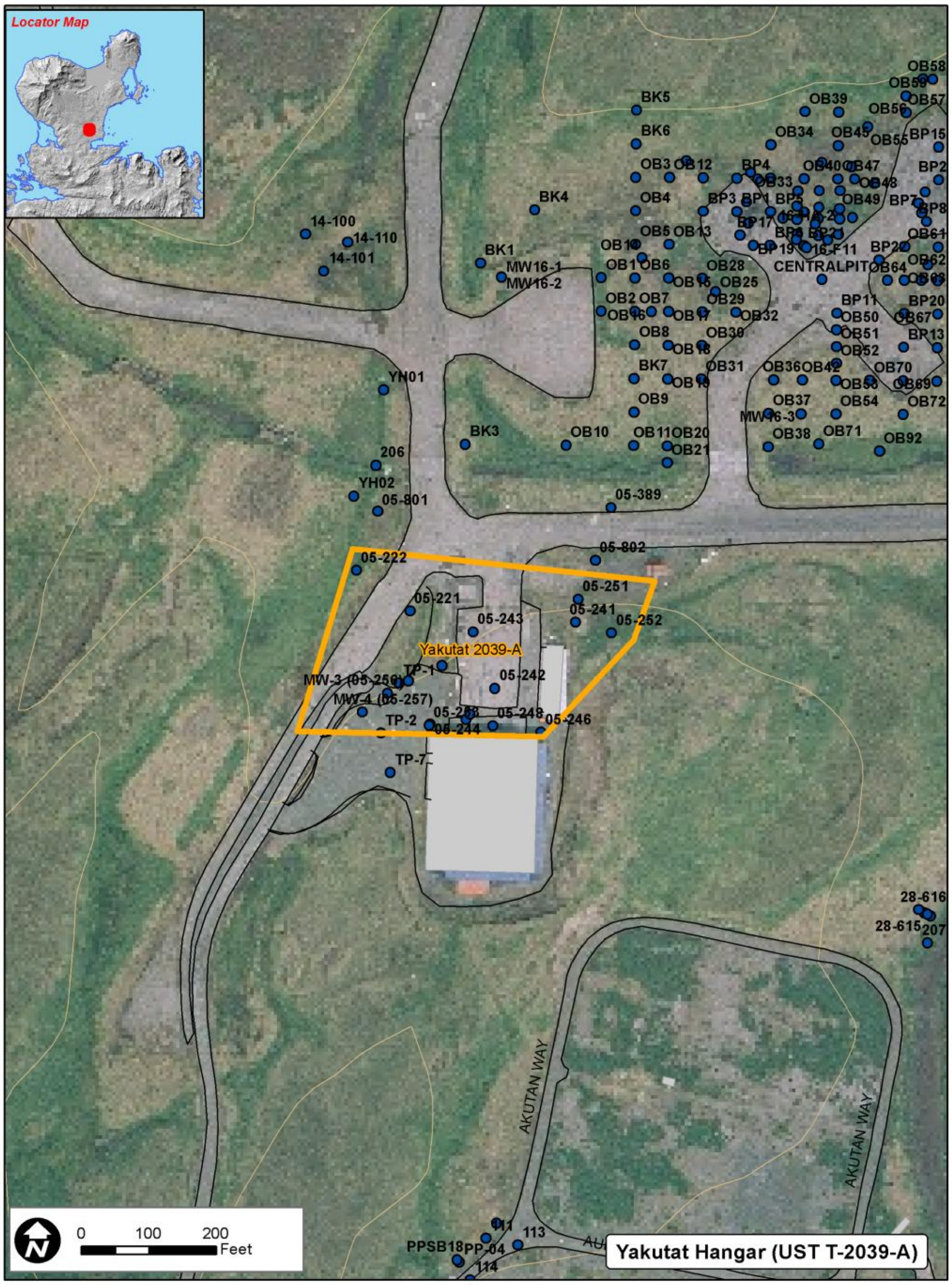
Annual inspections report ICs are functioning as intended. The site inspection conducted in August 2010 for the five-year review confirmed these findings. The 2010 IC report recommends that the abandoned remediation system be assessed for removal from the site.

BIBLIOGRAPHY:

36, 62, 77, 84, 86, 90, 91, 121, 122, 125, 129, 134

Environmental Restoration Site Report
Adak Island, Alaska

Yakutat Hangar (UST T-2039-A)	OU A - SAERA



Yakutat Hangar (UST T-2039-A) OU A - SAERA

STATUS: Conditional closure in 2007, with ADEC concurrence. IC inspections are required.

BACKGROUND:

The Yakutat Hangar site is located approximately 1,800 feet west of Runway 18-36 and approximately 1,500 feet south of the west end of Runway 5-23. Building T-2039 was built in the 1940s as an airplane hangar. It is unknown when the automobile repair garage was constructed. Sometime in the late 1970s, the hangar was converted from its original use to house additional automobile repair and automobile hobby shop facilities. UST T-2039-A was installed in 1979 about 17 feet north of Yakutat Hangar and contained used oil generated by auto repairs at Building T-2039. The general topography of the Yakutat Hangar area slopes downward slightly to the north and west. The area surrounding the UST is paved with asphalt and has been used for vehicle parking and storage. South Sweeper Creek, which lies approximately 370 feet northeast and downgradient of the former UST, is the closest downgradient surface water body.

When UST T-2039-A was removed in September 1993, it showed minor signs of corrosion. No records of spills or leaks from UST T-2039-A were found. Groundwater that accumulated in the excavation had a petroleum odor and sheen. The maximum DRO concentration reported in samples collected from the bottom of the excavation was 350 mg/kg. The excavation was backfilled. The source of the material used to backfill the excavation is variously reported as either a clean source, or a contaminated soil stockpile generated at the time UST T-2039-A was removed. In 1996, the Navy discovered free product in a drainage ditch northwest of Yakutat Hangar. Seven test pits were excavated upgradient of the drainage ditch by Navy personnel to assess the source of the petroleum fuel. Free product was observed on the shallow water table in four of seven test pits. Temporary well points were installed in 1997 to evaluate the extent of free product and identify the source. The source of the free-product plume was attributed to leaks from the underground heating fuel pipeline that connects the AST located west of the hangar to the heating system in the hangar. Four recovery wells were installed at the site. The maximum areal extent of free product in 1996 was between the AST west of Yakutat Hangar, the northwestern edge of the hangar (well 05-244), and the recovery trench. No samples were collected during this investigation. An aesthetic action was taken at the site in 1998. The drainage ditch was replaced with a French drain, which consists of a perforated pipe placed in gravel backfill. The new drain pipe was connected to an existing culvert. The culvert and drainage ditch were parts of the same drainage system. The drainage from the culvert enters another ditch, which eventually connects to South Sweeper Creek.

Two 2-inch-diameter monitoring wells, two 4-inch-diameter recovery wells, three 0.5-inch Geoprobe wells, and four Geoprobe borings were installed between 1996 and 1997 as part of the Yakutat Hangar UST T-2039-A investigation. Four of eight soil samples collected yielded DRO concentrations greater than the ADEC soil cleanup criterion. In 1998 and 1999, four more soil samples were collected from three locations. DRO was not reported in any of these samples at concentrations greater than the ADEC soil cleanup criterion. DRO concentrations in groundwater samples collected from three of seven wells were equal to or greater than the ADEC groundwater cleanup criterion for groundwater used as drinking water, and benzene concentrations exceeded groundwater as drinking water cleanup criterion in two of seven wells sampled. When one of these wells was resampled in 1997, concentrations were below the groundwater as drinking water cleanup criterion. Two monitoring wells (05-250 and 05-801) were installed in 1998, and well 05-389 was installed in 1999. No detections of petroleum compounds have been reported in well 05-

250 from samples collected in 1998. Wells 05-389 and 05-801 were sampled twice annually as part of the monitoring program from 1998 to 2002. Well 05-389 had low detections of DRO and GRO from the sample collected in 1999. While several samples collected from this site since 1996 contained DRO in concentrations greater than groundwater as drinking water cleanup criterion, groundwater is not considered a potential future drinking water source at this site. No detections of DRO at this site exceeded the ADEC cleanup criterion for groundwater not used as a drinking water source.

A free product recovery system consisting of an interceptor trench located immediately upgradient of the former ditch was installed in January 1997. The system operated from February 1997 through November 2000. During this period, approximately 690 gallons of free product were recovered. The Navy contends that free product has been recovered at this site to the maximum extent practicable as required by 18 AAC 75.325(f)(1)(B). Product recovery efforts were discontinued at this site during November 2000.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	19
Number of Pre-Rod Samples	67
Potential Contaminat Types Evaluated	Inorganics, Metals, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Product (floating or free), Sub-surface soil (> 6"), Water (not groundwater, unspecified)
Types of Pre-ROD Locations	Direct Push/Geoprobe, Geoprobe well, Monitoring well, Recovery well, Test Pit, Well

Yakutat Hangar (UST T-2039-A) OU A - SAERA

COCs AND RISKS:

Yakutat Hanger, UST T-2039-A was one of the sites in the OU A ROD for which additional evaluation under SAERA was required. The interim action under the OU A ROD was free product recovery.

The OU A ROD (1999) did not identify human health or ecological risks associated with the site, however, a human health and ecological risk assessment was completed for this site in 2004, as part of the additional evaluation under SAERA. This site poses no unacceptable risk to human health or the environment above target health goals, provided that Ics remain in effect. The risk assessments performed for this site established that the concentrations in soil do not pose a risk to humans or the environment above target health goals at their present contamination level; therefore, no separate ACLs were calculated and, by default, the existing contaminant levels at the site become the site-specific ACLs. The risk assessment findings of no unacceptable risk remain valid, providing that the assumed land uses for the site per the Adak Reuse Plan do not change. Cleanup levels specified for groundwater at petroleum-contaminated sites on the former Adak Naval Complex are based on the use of groundwater as a drinking water source [18 AAC 75.345(b)(1), Table C], or 10 times these levels if the groundwater is not reasonably expected to be a potential future source of drinking water [18 AAC 75.345(b)(2)]. Groundwater at the Yakutat Hangar (UST T-2039-A) is not considered to be a reasonably expected potential future source of drinking water; therefore, groundwater cleanup levels for these sites are 10 times the levels specified in Table C of the Alaska regulations.

Surface water samples have not been collected from the drainage ditch at Yakutat Hangar, which discharges into South Sweeper Creek. However, contaminant-loading modeling was performed and model results predicted that surface water quality criteria would be met at the site.

The 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk established no COCs for this site.

RAOs:

The OU A ROD for the petroleum site Yakutat Hangar (UST T-2039-A) established the following original RAO for Yakutat Hangar (UST T-2039-A):

- Reduce volume of petroleum free product.

The RAOs were revised in the 2005 Final Decision Document for Petroleum Sites with No Unacceptable Risk to the following:

- Over the long term, reduce concentrations of petroleum-related chemicals in groundwater to levels below Alaska DEC groundwater cleanup levels.
- Prevent future exposure to petroleum-related chemicals in soil and groundwater at the site.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is free product recovery.

Yakutat Hangar (UST T-2039-A) OU A - SAERA

Product recovery was initiated during January 1997 and was terminated during November 2000, because free product recovery conducted as an interim remedial action met the practicable endpoint established for the shut-down of product recovery as specified in the OU A ROD. ADEC approved the interim action free product recovery closure report for this site in January 2006. The decision document prepared by the Navy and ADEC in 2005 under SAERA specifies the final remedy as limited groundwater monitoring. This remedy was implemented in 2005 though adjustments to the CMP. In addition to the limited groundwater monitoring component of the remedy, the 2005 decision document required surface water samples from the drainage ditch prior to its discharge to South Sweeper Creek to evaluate contaminant loading.

Surface water sampling was conducted as required in September 2004. One sample was collected from near station 5-222, and one sample was collected from the intersection of the drainage ditch and South Sweeper Creek. The samples were analyzed for GRO, DRO, and BTEX. Only GRO was detected in one of the two samples, at a concentration of 0.02 mg/L. With ADEC concurrence, the site status was designated as NFRAP in 2007. ADEC granted conditional closure at the site in 2007, but required that the site remain subject to ICs. ADEC required proper well abandonment and decommissioning of the free product recovery system.

No ICs specific to Yakutat Hanger UST T-2039-A were established in the OU A ROD or the 2005 SAERA decision document; however, ICs were explicitly required in ADEC's conditional closure letter. ICs are included for this site in the ICMP. ICs originally were implemented in 2000 following execution of the OU A ROD. Land use restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs. The land use restrictions/prohibitions have been included in the Interim Conveyance. The downtown groundwater is restricted from domestic use. Excavation notification is required at all sites.

Yakutat Hangar (UST T-2039-A) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection — Click to View ICMP Table
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date 2006 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring Click to View Current Monitoring **Monitoring File:** Yakutat2039-A_MonCurr.pdf

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-221	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-240	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Monitoring not planned	

Yakutat Hangar (UST T-2039-A) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-243	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Monitoring not planned	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-244	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	Met endpoint criteria; monitoring discontinued	

Yakutat Hangar (UST T-2039-A) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-250	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-389	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, BTEX, DRO, RRO, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO	
2006	DRO	
2007	Met endpoint criteria; monitoring discontinued	

Yakutat Hangar (UST T-2039-A) OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-801	SW protection	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2001	GRO, GRO fractions, BTEX, DRO, RRO, NAPs	
2002	GRO, DRO, BTEX, NAPs	
2003	DRO, GRO, BTEX	
2004	DRO, GRO, BTEX	
2005	DRO	
2006	DRO	
2007	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-1	PT	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Product thickness	
2007	Monitoring not planned	
2008	Monitoring not planned	
2009	Monitoring not planned	
2010	Monitoring not planned	

Yakutat Hangar (UST T-2039-A) — OU A - SAERA

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-2a	Limited GW monitoring	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	DRO	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	DRO	
2006	DRO	
2007	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

During the September 2010 IC inspection, no indications of groundwater use or excavation activities were found. Excavation restriction signs were clearly visible. Therefore, ICs appear to be functioning as intended to protect human receptors from exposure to soil or groundwater.

BIBLIOGRAPHY:

7, 36, , 62, 77, 84, 86, 87, 90, 91, 94, 121, 124, 125, 129

Yakutat Hangar (USTs T-2039-B and T-2039-C) OU A - SAERA

Yakutat Hangar (USTs T-2039-B and T-2039-C) — OU A - SAERA

STATUS: NFRAP in 2005, with ADEC concurrence.

BACKGROUND:

The Yakutat Hangar site is located approximately 1,800 feet west of Runway 18-36 and approximately 1,500 feet south of the west end of Runway 5-23. Building T-2039 was built in the 1940s as an airplane hangar. It is unknown when the automobile repair garage was constructed. Sometime in the late 1970s, the hangar was converted from its original use to house additional automobile repair and automobile hobby shop facilities. UST T-2039-B was installed in 1979 at the south end of the garage and supplied JP-5 to a heating boiler inside. UST T-2039-C was installed in 1981 directly beneath the south wall grade beam of the garage. The tank was connected to floor drains inside the garage and was used to collect and store used oil and any spilled fluids from the floor.

The general topography of the Yakutat Hangar area slopes downward slightly to the north and west. The area surrounding the UST is paved with asphalt and has been used for vehicle parking and storage. South Sweeper Creek, which lies approximately 370 feet northeast and downgradient of the former UST, is the closest downgradient surface water body.

A 2-inch-diameter steel vent pipeline and 2-inch-diameter remote fill pipeline for tank T-2039-B were removed in May 1995. Since groundwater was encountered in the excavation at 2.5 feet bgs, the UST was not removed, because plans had not been made for controlling groundwater during removal activities. When tank removal activities resumed in October 1995, UST T-2039-B was found to be full of oily water. About 2,500 gallons were pumped from the tank before it was removed. UST T-2039-B was observed to be in good condition when it was removed, with only minor surface rust on the top. However, two 2-inch-diameter openings were noted on the tank where the fill and vent pipes, removed in May 1995, had been located. The concrete ballast for the tank was not removed, since it was too close to the building.

There were about 50 gallons of oily water in UST T-2039-C prior to its removal in October 1995. The water was pumped out before removal activities began, but the tank refilled with water. The six pipe connection points observed on the tank were found to be loose and were believed to have allowed the tank to refill with groundwater. Because of the limited work area and the high water table, the tank was removed by excavating outside the building and pulling the tank laterally from underneath the building. Underground piping was cut and capped. None of the soil samples collected from the two excavations had DRO concentrations above the Alaska soil matrix level.

The chemical analyses conducted on nine soil samples collected from the limits of this excavation reported concentrations of petroleum-related chemicals below the most stringent ADEC Method Two soil cleanup criteria established for each chemical tested.

DRO was reported at a concentration of 14,000 mg/kg in a surface soil sample (0 to 2 feet bgs) collected during installation of downgradient monitoring well 05-241. Because this concentration is reported in a surface soil sample located approximately 150 feet downgradient from USTs T-2039-B and -C, and because groundwater samples from well 05-241 reported concentrations of petroleum-related chemicals below ADEC groundwater cleanup criteria, it appears that the DRO concentrations in surface soil at this location may be a result of careless disposal practices at the automotive hobby garage.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	1
Number of Pre-Rod Samples	3
Potential Contaminat Types Evaluated	Inorganics, Pesticides and aroclors, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Well

Yakutat Hangar (USTs T-2039-B and T-2039-C) OU A - SAERA

COCs AND RISKS:

The OU A ROD established COCs for petroleum sites based on exceedances of State of Alaska criteria or MCLs. At the time of the OU A ROD, the following chemicals exceeded these criteria (interpreted from Table 5-11 of the OU A ROD):

Groundwater

- Benzene

RAOs:

The OU A ROD for the petroleum site Yakutat Hangar (USTs T-2039-B and T-2039-C) established the following RAO for Yakutat Hangar (USTs T-2039-B and T-2039-C) on Table 7-4 of the OU A ROD:

- Reduce petroleum concentrations in soil.

REMEDY IMPLEMENTATION:

The OU A ROD-specified interim remedy for this site is limited soil removal.

Approximately 30 cubic yards of soil were removed from a 20-foot-square area surrounding well 05-241 during July 1999. Two confirmational soil samples collected from the northern and southern limits of the excavation contained DRO at concentrations of 24 mg/kg (estimated) and 3,200 mg/kg, respectively. The remedy reverted to limited groundwater monitoring in 1999 with ADEC concurrence. The site met the endpoint criteria with 1999 and 2000 analytical results, and groundwater monitoring was terminated in 2000.

This site was evaluated in the 2005 Final Cleanup Report, 19 Sites. Based on this report, ADEC concurred with NFRAP status for this site, but required soil samples near locations 241, 251, 252, and 382 to achieve NFA.

No ICs specific to USTs T-2039-B and T-2039-C at Yakutat Hanger were established in the OU A ROD, and IC inspections are not included for this site in the ICMP. However, ICs are required in the ICMP for the nearby UST T-2039-A.

Yakutat Hangar (USTs T-2039-B and T-2039-C) — OU A - SAERA

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date February 1999 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Yakutat Hangar (USTs T-2039-B and T-2039-C) OU A - SAERA

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-241	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
05-802	Limited GW monitoring	Groundwater
1999	DRO, GRO, BTEX, NAPs (quarterly - 2 rounds)	
2000	Met endpoint criteria; monitoring discontinued	

SUMMARY OF INSPECTION RESULTS:

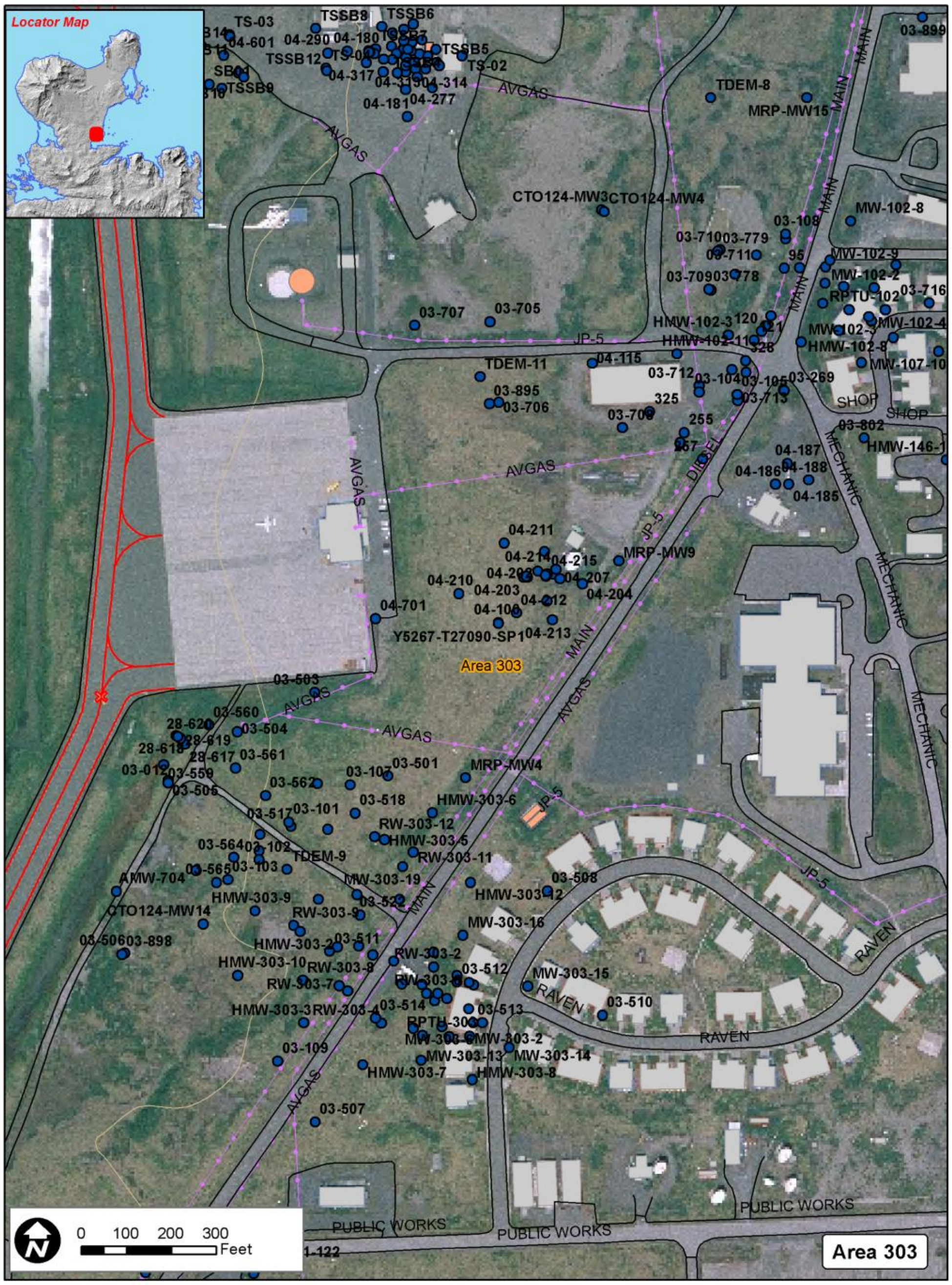
No indication that groundwater is being used or indication of excavation activities were found as of the 2010 five-year review inspection. This site is not included in the annual IC inspection process.

BIBLIOGRAPHY:

2, 36, 59, 62, 84, 86

Environmental Restoration Site Report
Adak Island, Alaska

Area 303	not designated



Area 303 **not designated**

STATUS: Investigation ongoing, a decision document has not been executed.

BACKGROUND:

The petroleum-release site designated Area 303 is located in downtown Adak between the air terminal and the former high school building. It is bounded by Airport Road to the north, Sandy Cove Housing area and the former high school building to the east, Eagle Bay Housing area and an unnamed dirt road to the south, and the air terminal to the west. Area 303 occupies approximately 23.8 acres that include disturbed commercial-industrial areas and open grass-covered areas. The general topography of the site is relatively flat with surface drainage directed to the west. The ground surface at the site consists of the asphalt-paved Main Road, multiple small gravel-covered lots in highly disturbed areas near existing structures, and an extensive level area covered with native grasses comprising the less disturbed areas. Elevations of the ground surface in this area are generally 26 to 30 feet above MLLW.

The primary physical features at Area 303 include the former line crew building (Building T-2776), which is located at the northern limit of Area 303 along Airport Road, the GCI Compound, which includes the GCI Building (Building 42352) and an associated long-distance telecommunications transmitter and receiver antenna, located within a fenced enclosure that is approximately centered within Area 303, the Main Road traversing the eastern portion of the site in a northeast-southwest direction, and an underground utility corridor that contains former fuel transfer pipelines and traverses the site parallel and adjacent to Main Road.

During 2002, the USGS evaluated the Navy's groundwater monitoring program for OU A at the former Adak Naval Complex to determine how well the program was meeting the objectives specified in the ROD. The Navy then asked the USGS to conduct a field investigation on Adak to obtain information that would be used to modify the existing monitoring program so that it would better monitor the effectiveness of natural attenuation processes. The resulting field investigation was conducted during May and June 2003. As part of this investigation, the USGS collected groundwater samples from 10 locations between the GCI Compound and the East Canal using a Geoprobe sample collection method. The chemical analyses conducted on these samples identified the presence of GRO at concentrations that greatly exceeded those obtained from the GCI source area. The distribution of GRO concentrations in the primary aquifer beneath Area 303 caused the USGS to conclude that a second overlapping GRO plume existed in this area. The USGS stated that the second GRO plume was emanating from an unidentified source somewhere south or southwest of the GCI source area along Main Road.

The Navy subsequently contracted to conduct a follow-on investigation in order to characterize the GRO release, evaluate the human health and ecological risks associated with the release, and present remedial alternatives. The latter would provide decision makers with sufficient information to select an appropriate, cost-effective remedial alternative that protects human health and the environment and that can be implemented at the earliest possible time.

Field investigation activities were conducted during May, June, and July 2006 for the Area 303 site characterization. The primary activities included a survey of the pipelines within Area 303, Geoprobe survey, surface soil sampling, subsurface soil sampling, monitoring well installations, and groundwater sampling.

The distribution of petroleum-related chemicals in the subsurface appears to be controlled not only by the release point and mechanism, but also by local geologic conditions. It appears that the source of petroleum-related chemicals in soil and groundwater at Area 303 originated from the 8-inch avgas pipeline located just east of Main Road. In addition, the release could have been controlled to some extent by migration along the pipeline trench backfill. The point, therefore, at which the release left the pipeline trench backfill may not necessarily be the point at which the pipeline leak occurred. Branch lines to the main pipeline could have affected the route through the vadose zone to groundwater. Other leaks in the northern portion of the pipeline could have resulted in the GRO and benzene detections observed in groundwater.

During summer 2010, the Navy contracted to conduct a soil vapor sampling to support assessment of the risk of potential vapor intrusion at Area 303. Results of this sampling will be used to develop an accurate model and reevaluate the risk assessment.

PRE-ROD ASSESSMENT SUMMARY:

A decision document has not yet been issued for this site.

The tabulation below summarizes the data collected to date for Area 303.

Number of Pre-Rod Locations Sampled	52
Number of Pre-Rod Samples	242
Potential Contaminat Types Evaluated	Air,Inorganics, Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil gas, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Direct Push/Geoprobe, Geoprobe well, Monitoring well, Soil gas probe/well

Area 303 — not designated

COCs AND RISKS:

Not established.

The existing risk assessment for Site 303 is being revised based on 2010 data.

RAOs:

Not established.

REMEDY IMPLEMENTATION:

Not established.

Area 303 not designated

OPERATIONS, MAINTENANCE, AND MONITORING:

Groundwater monitoring is currently performed as part of an on-going site evaluation, not as part of the requirements of the CMP.

Monitoring Types:

- [x] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date September 2010 **Most Recent Inspection Date:** August 2010

Current Media Sampled Soil vapor, groundwater

Current Analytes Sampled BTEX, GRO, free product thickness

Current Monitoring None Required **Monitoring File:** Not Applicable

Area 303 not designated

MONITORING HISTORY:

Location-Specific Summary of Comprehensive Monitoring Program Since 1999

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
03-107	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Site Assessment	
2009	GRO, BTEX, NAPs	
2010	Monitoring not planned	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-17	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Site Assessment	
2009	GRO, BTEX, NAPs	
2010	Monitoring not planned	

Area 303 not designated

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-30	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Site Assessment	
2009	GRO, BTEX, NAPs	
2010	Monitoring not planned	

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-33	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Site Assessment	
2009	GRO, BTEX, NAPs	
2010	Monitoring not planned	

Area 303 not designated

LOCATION	MONITORING PURPOSE	MEDIUM TESTED
MW-303-34	MNA	Groundwater
1999	Monitoring not planned	
2000	Monitoring not planned	
2001	Monitoring not planned	
2002	Monitoring not planned	
2003	Monitoring not planned	
2004	Monitoring not planned	
2005	Monitoring not planned	
2006	Monitoring not planned	
2007	Monitoring not planned	
2008	Site Assessment	
2009	GRO, BTEX, NAPs	
2010	Monitoring not planned	

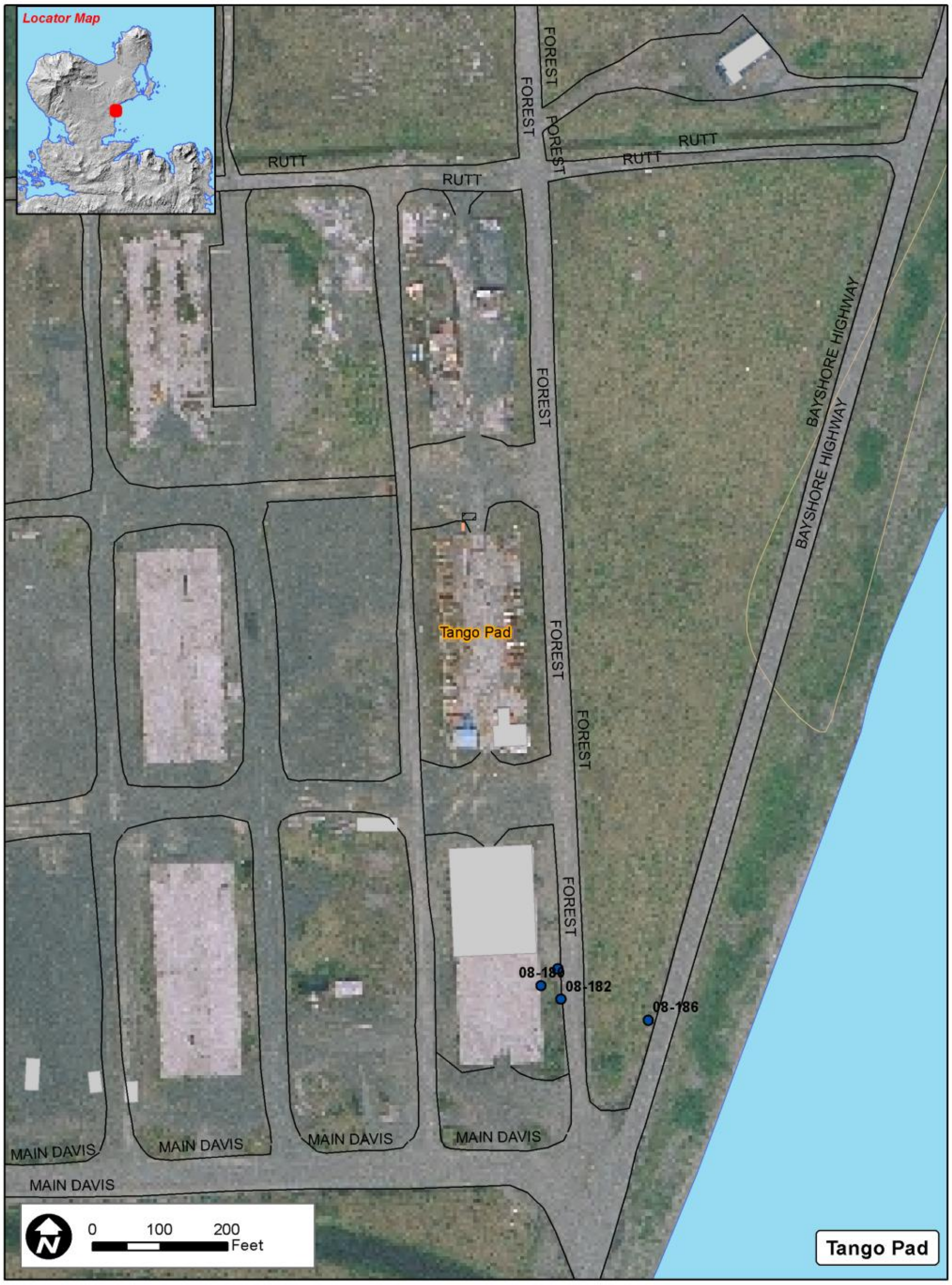
SUMMARY OF INSPECTION RESULTS:

The August 2010 site inspection performed in support of the five-year review noted the presence of the Eagle Bay 303 product recovery unit and recent soil vapor investigation borings. This site overlaps with SWMU 62 and parts of the GCI compound.

BIBLIOGRAPHY:

26, 108

Tango Pad — not designated



Environmental Restoration Site Report
Adak Island, Alaska

Tango Pad — not designated

STATUS: NFA with ADEC concurrence.

BACKGROUND:

Tango Pad is a former contractor laydown yard located north of downtown near Runway 5-23 in the Contractor's Camp area. The site is a gravel area alongside a mogas AST used for fuelling contractor vehicles from an unknown time through 2001.

Two spills were previously reported at the site. The first, in 2000, resulted in a small excavation and removal of one 55-gallon drum of petroleum contaminated soil. The second spill was reported in 2001, and lead to the 1,500-gallon AST being taken out of service.

In 2006, a site investigation was conducted to determine the extent of impacts to soil from these two spill events, the results of which were used to execute a removal action during the same year. The AST was cleaned and residual fuel and water were removed, 26 cubic yards of petroleum contaminated soil above the cleanup level were excavated, and confirmation samples were collected.

PRE-ROD ASSESSMENT SUMMARY:

Number of Pre-Rod Locations Sampled	17
Number of Pre-Rod Samples	22
Potential Contaminat Types Evaluated	Inorganics, Metals, Petroleum hydrocarbons, Semivolatile organics, Volatile organics
Pre-ROD Sample Matrix Types	Ground water, Soil, Sub-surface soil (> 6")
Types of Pre-ROD Locations	Borehole/Soil boring, Direct Push/Geoprobe, Excavation

Tango Pad	not designated

COCs AND RISKS:

Tango Pad was not included in the OU A ROD. During 2006 investigative studies, total lead was detected at concentrations in excess of its ADEC groundwater cleanup level.

Tango Pad cleanup levels were established in the 2006 Final Work Plan for the following chemicals:

Groundwater

- GRO

Soil

- Benzene
- DRO
- Ethylbenzene
- Lead
- RRO
- Toluene
- Total Xylenes

RAOs:

Not established.

REMEDY IMPLEMENTATION:

Tango Pad was not included in the OU A ROD. A soil removal action was conducted in summer 2006, along with decommissioning the AST.

The excavation of soil contamination was guided by the results of the site investigation and field screening using a PID. During excavation soil contamination was identified between five and eight feet bgs. Following excavation, four confirmation samples were collected for laboratory analysis. All results were below the ADEC Method Two soil cleanup level (18 AAC 74.341) and the removal action cleanup levels specified in the project work plan. Approximately 26 cubic yards of contaminated soil were removed from the excavation, temporarily stockpiled, and transferred to lined and covered containers for transport and off-site disposal at an approved waste disposal facility.

Petroleum concentrations detected in confirmation soil samples ranged from not detected to GRO at 15 mg/kg, ethylbenze at 440 µg/kg, toluene at 26 µg/kg, and total xylenes at 4,300 µg/kg.

The site closure report from 2007 documented the cleanup activities and requested NFA determination for the site, based on results of confirmation sampling. ADEC concurred with the NFA determination in July

2007.

Site-specific ICs are not associated with the Tango Pad Spill Area. However, the site is located within the Adak Downtown groundwater use restriction area.

Tango Pad — not designated

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [ ] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [x] None Required

Most Recent Sampling Date July 2006 **Most Recent Inspection Date:** 2006

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Tango Pad **not designated**

SUMMARY OF INSPECTION RESULTS:

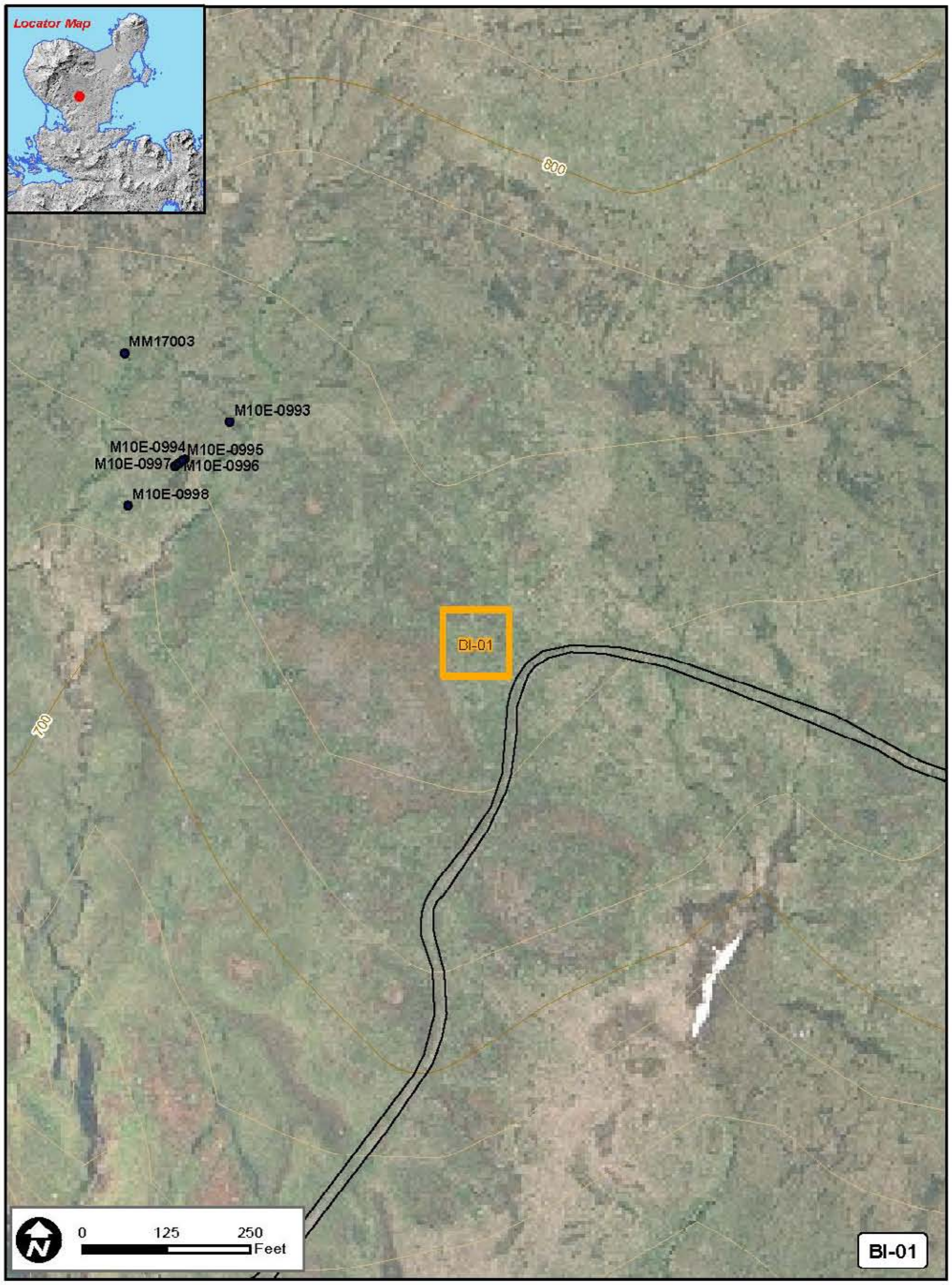
Annual inspections are not conducted at Tango Pad, and this site was not included in the 2010 inspection performed in support of the 5-year review.

BIBLIOGRAPHY:

92, 97

Environmental Restoration Site Report
Adak Island, Alaska

Bay of Island Impact Area - BI-01 OU B-1



Bay of Island Impact Area - BI-01 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

BI-01 consists of a small 0.22-acre parcel of land located north of town at the base of Mount Moffett. The circular area was identified from a single archive record that identifies the weapon system as a 155-mm gun located on the lower southwestern flanks of Mt. Moffett. This site includes the firing point on Mt. Moffett.

Bay of Island Impact Area - BI-01 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for BI-01 was observation approach presumptive remedy. The OU B-1 ROD states that BI-01 was reconned in the 2000 field season and subsequently recommended for NFA. Furthermore, the 2004 after action report indicated that an e-mail from former Environmental Chemical Corporation Project Manager Al Larkins to Mark Murphy describes how UXO teams searched for possible firing points and impact areas at multiple locations during the 2000 field season, and none were found at BI-01. The site was visited in August 2004 and three types of manmade features were identified in the vicinity of this site. However, no MEC items were found while investigating the site. In 2008, ADEC designated conditional closure with ICs for the site.

Bay of Island Impact Area - BI-01 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Bay of Island Impact Area - BI-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

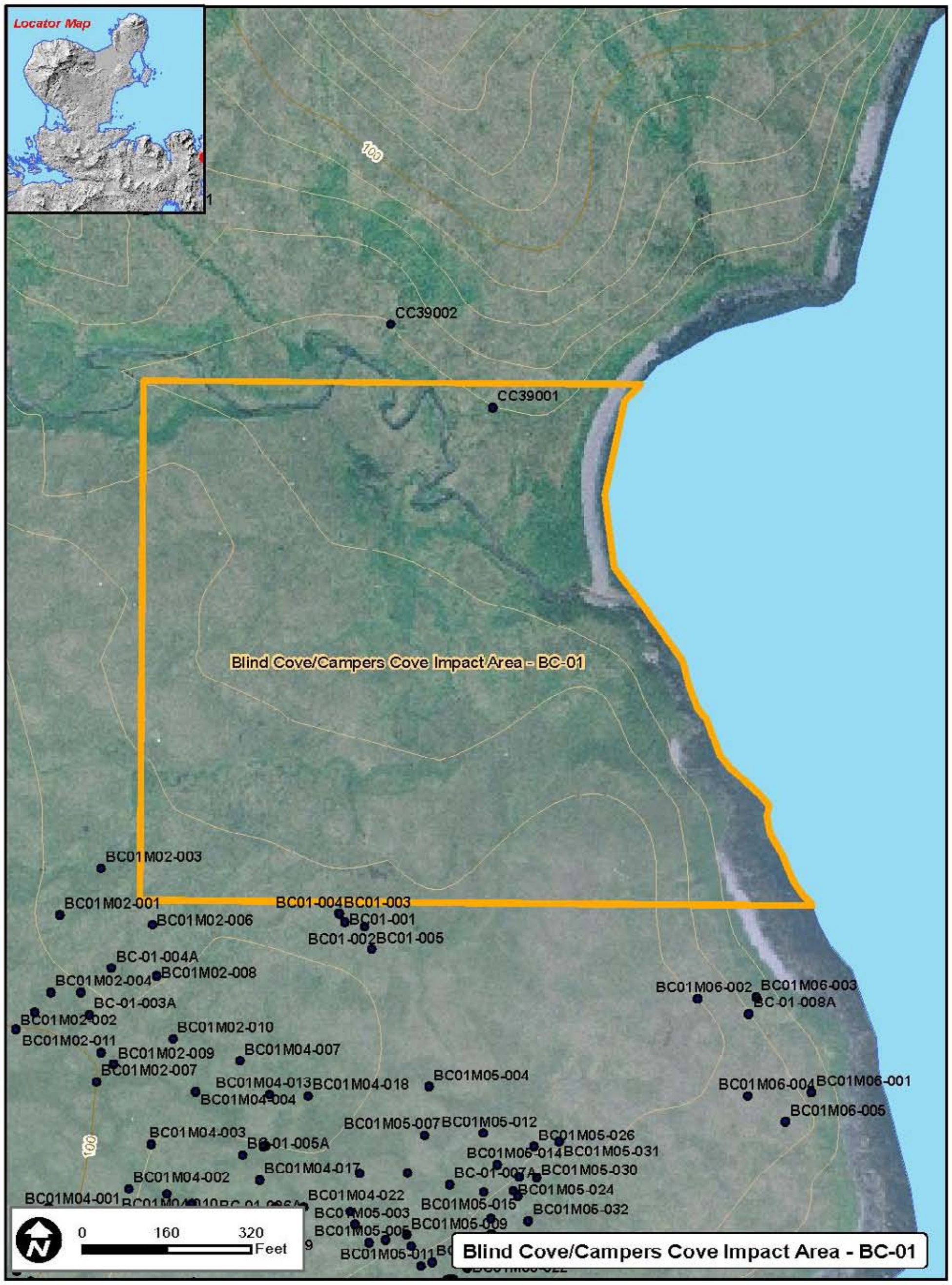
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

99, 100, 106, 83, 129

Environmental Restoration Site Report
Adak Island, Alaska

Blind Cove/Campers Cove Impact Area - BC-01	**OU B-1**



Blind Cove/Campers Cove Impact Area - BC-01 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

The Blind Cove/Campers Cove Impact Area, including BC-01, is located southwest of downtown Adak along the eastern shoreline of Adak Island. This sector is approximately 4,469 acres, including the area outside the military reservation. Terrain and vegetation vary significantly, from the coastal lowlands to the steep, rocky peaks along the western boundary of the sectors. Based on historical records, this area includes two firing points and associated range safety fans, gun battery firing area and associated impact zone, and a land-based scouting problem maneuver area.

BC-01 is located within the Blind Cove/Campers Cove Impact Area sector, and measures 300 meters square (approximately 22 acres). BC-01 served as an impact zone for gun battery firing. The terrain is relatively flat terrain, and the vegetation is thick and lush with lowland tundra species growing to heights of 6 to 18 inches. The area is not accessible by any improved roads or established hiking trails, and has been accessed only by boat or helicopter. This area was investigated twice previously. During the 1999 site investigation, this site was surveyed as part of the Blind Cove/Campers Cove area. No MEC or MD was found. This area was investigated a second time during the 2000 RI. Five anomalies were identified and intrusively investigated. All anomalies were MD with two pieces being identified as projectile fragments. Because projectile fragments were located along the southern boundary of BC-01, further investigation between BC-01 and BC-09 was determined to be necessary.

Blind Cove/Campers Cove Impact Area - BC-01 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for BC-01 was observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination to the south of the BC-01 boundary as part of the observational approach to executing clearance at the site. As discussed in the background section, addition investigation was needed at this site because five anomalies were identified along the southern boundary of the site during the 2000 RI. During 2001, a geophysical survey was used to determine the final boundaries of the site and meet the OU B-1 requirement for final characterization and clearance. The survey was performed to the south of BC-01 along survey transects spaced at 115-meter intervals. Nine anomalies were investigated based on geophysical results; eight pieces of MD and one no find. Based on the findings of the 2001 field work, additional geophysical survey work was performed in 2002, also to the south of BC-01, to determine the final boundaries of the site. Survey work was performed in the form mini-grids. One hundred and one anomalies were investigated based on geophysical results: 63 pieces of MD were removed and 37 anomalies were no finds. Since no MEC was identified during the final site characterization activities, the site was designated NFA and the ROD remedy was completed in 2002.

Blind Cove/Campers Cove Impact Area - BC-01 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Blind Cove/Campers Cove Impact Area - BC-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

BIBLIOGRAPHY:

83, 91, 99, 101, 102, 107, 117, 129

Combat Range 1 - C1-02 | OU B-1

Combat Range 1 - C1-02 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

Combat Range #1, including C1-02, is located northwest of downtown Adak, encompassing the land area on the northern flank of Mt. Moffett. Combat Range #1 is approximately 4,400 acres in size and has varied terrain and vegetation. The entire sector is composed of rocky steep slopes separated by deep near-vertical ravines continuing down to the water's edge. A small rocky beach is present at the base of the mostly vertical cliffs.

C1-02 is located within the Combat Range #1 sector, and is 0.22 acre. A piece of a mechanical time fuze classified as MD was found in 1999 during a meandering path geophysical survey. This fuze was removed at the time of the survey. Access to this site is severely limited by it's location and topography. The nearest vehicle access point is the former ski lodge area, which is 4.3 miles away (as the crow flies) and approximately 7.5 miles away if traversing the side of Mount Moffett. Access by boat also is impracticable due to the severe nature of the rocky shoreline and the fact that this site is approximately 4,800 feet from the shoreline and approximately 1,800 feet above sea level, with a steep cliff between the site and the shoreline.

Combat Range 1 - C1-02 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy was observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. Two attempts were made to reach this site using an ARGO all-terrain vehicle in September 2004, but both were terminated due to dense fog, heavy rain, and difficult terrain. The extremely isolated location of C1-02 significantly reduces the potential for the occurrence of casual hikers, and there are no locations of significant interest associated with this site. Further, this site is covered in snow approximately eight months out of the year. Because C1-02 is at least as unlikely to experience human usage as many of the sites deemed inaccessible (slopes in excess of 30 degrees) that are much closer to the City of Adak, the Navy recommended C1-02 also be deemed NFA due to inaccessibility.

In 2008, ADEC designated conditional closure with ICs for the site.

Combat Range 1 - C1-02 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 1 - C1-02 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

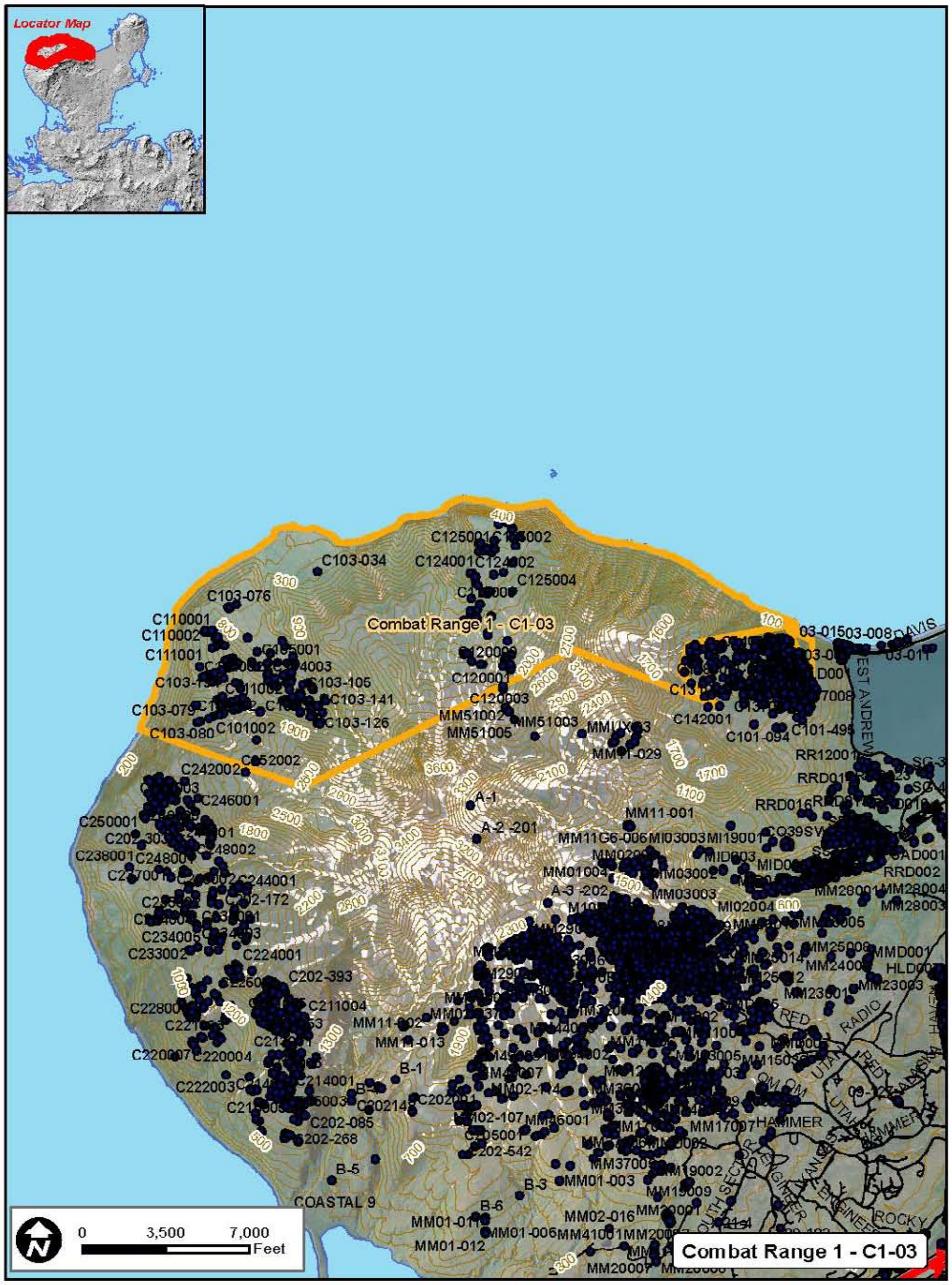
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 100, 106, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 1 - C1-03 OU B-1



Combat Range 1 - C1-03 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #1, including C1-03, is located northwest of downtown Adak, encompassing the land area on the northern flank of Mt. Moffett. Combat Range #1 is approximately 4,400 acres in size and has varied terrain and vegetation. The entire sector is composed of rocky steep slopes separated by deep near-vertical ravines continuing down to the water's edge. A small rocky beach is present at the base of mostly vertical cliffs. C1-03 is located within the Combat Range #1 sector, and is 4,125 acres. It is located on the northern slopes of Mt. Moffett, extending from the east near Lake Andrew to the west, where it borders Combat Range #2. There is access to the area only by ARGO all-terrain vehicle or helicopter. This area was investigated in 1999 and 2000. During the 1999 field investigation, no ordnance or related material was found. This area was investigated a second time during the 2000 RI. One hundred ninety-four anomalies were identified in the area during the 2000 RI, but these anomalies were not intrusively investigated at the time of the RI.

Combat Range 1 - C1-03 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy was observation approach presumptive clearance. In 2002, the anomalies identified during the 2000 RI were intrusively investigated. In addition, two 30-meter by 30-meter mini-grids were investigated. These mini-grids were centered on MD items located during the 2002 intrusive investigation of the anomalies identified during the 2000 RI. Twelve anomalies were identified and intrusively investigated in the two 30-meter by 30-meter mini-grids. Of the 206 anomalies investigated, six pieces of MD (including five pieces of fragmentation and one expended 51 series fuze) were found. Two hundred anomalies were classified as no finds.

Combat Range 1 - C1-03 | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 1 - C1-03 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

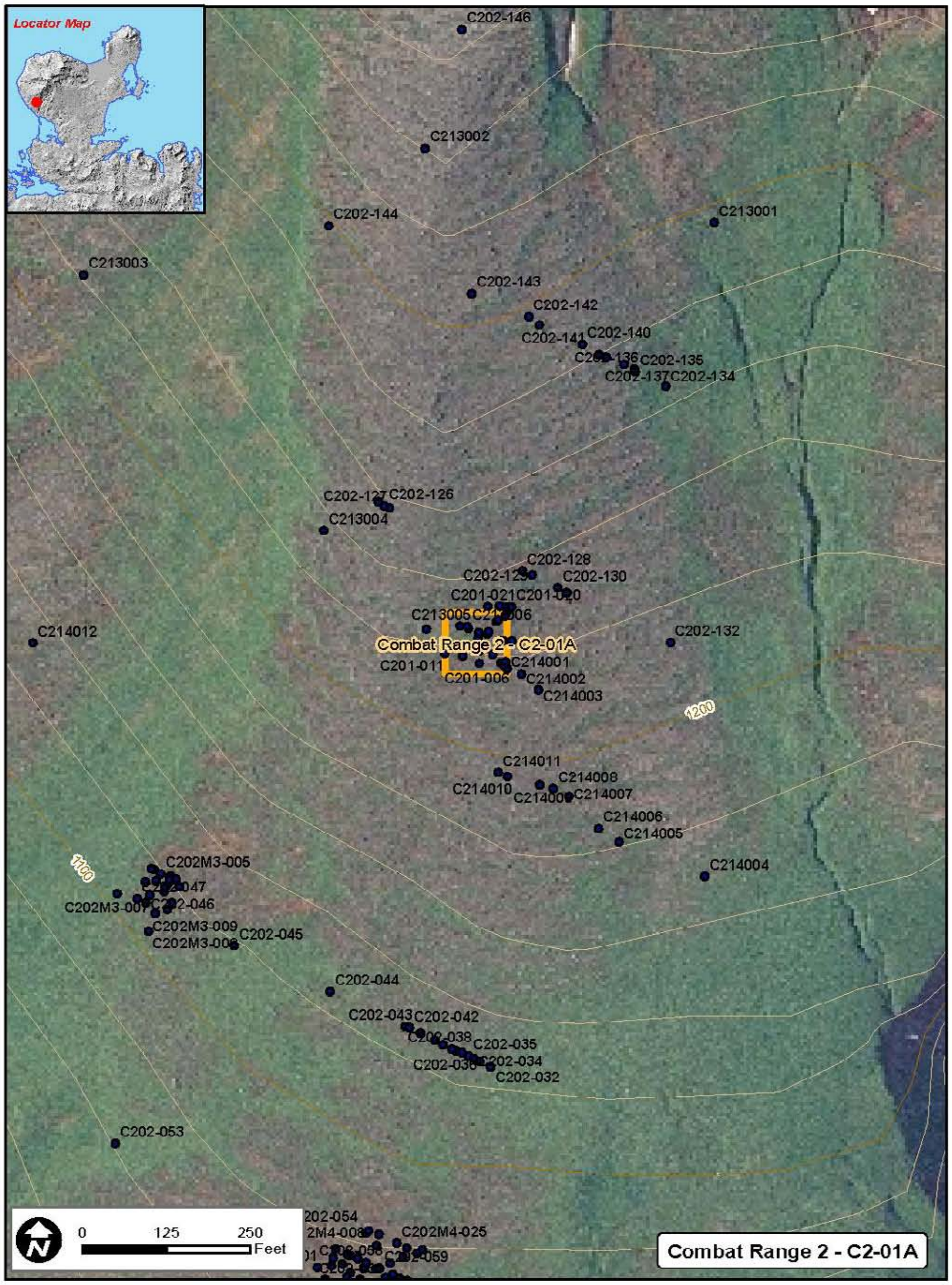
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 101, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 2 - C2-01A **OU B-1**



Combat Range 2 - C2-01A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #2, including C2-01A, is located northwest of downtown Adak, encompassing the land area on the western flank of Mt. Moffett. Combat Range #2 is approximately 3,401 acres in size and has varied terrain and vegetation. This sector is mainly composed of large sloping plateaus on the side of Mt. Moffett between moderately steep drainages.

C2-01A is located at the northwestern end of Combat Range #2, and encompasses 0.2 acre. The C2-01A area, on the lower flanks of Mt. Moffett, lies within a small patch of rolling terrain surrounded on the north and south by inaccessible terrain. There is access to the area only by ARGO all-terrain vehicle or helicopter. This area was investigated in 1999 and 2000. During the 1999 field investigation, two metal fragments were found in this general area. This same area was investigated again during the 2000 RI, although targets located in 2000 were not intrusively investigated at the time of the RI.

Combat Range 2 - C2-01A — OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy was observation approach presumptive clearance. In 2002, anomalies identified during the 2000 RI were intrusively investigated. No MEC or MD was found. Twenty-seven anomalies were classified as no finds. The ROD remedy was completed in 2002.

Combat Range 2 - C2-01A | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None | **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required | **Monitoring File:** Not Applicable

Combat Range 2 - C2-01A OU B-1

SUMMARY OF INSPECTION RESULTS:

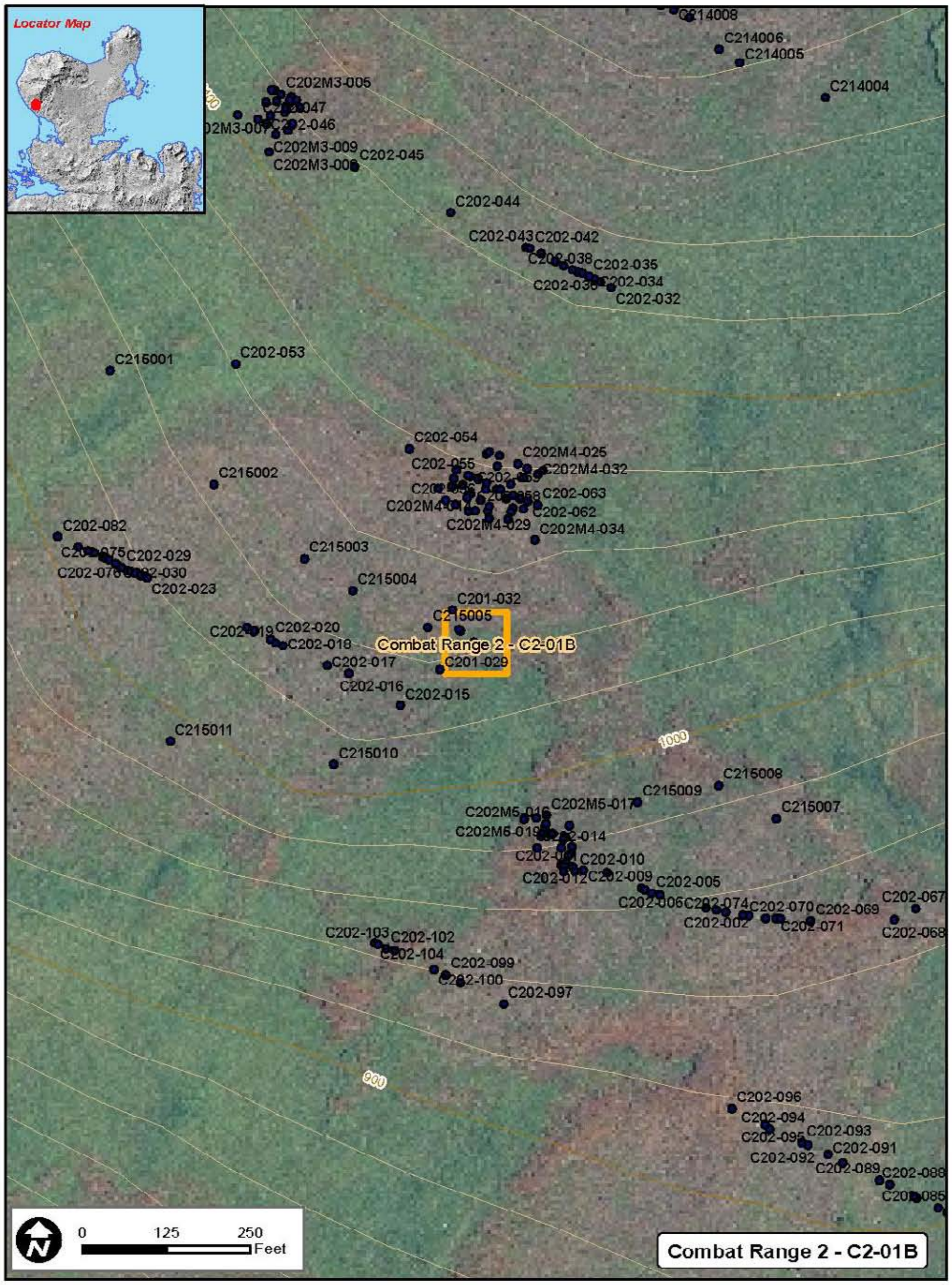
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 101, 129

Combat Range 2 - C2-01B OU B-1



Combat Range 2 - C2-01B OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #2, including C2-01B, is located northwest of downtown Adak, encompassing the land area on the western flank of Mt. Moffett. Combat Range #2 is approximately 3,401 acres in size and has varied terrain and vegetation. This sector is mainly composed of large sloping plateaus on the side of Mt. Moffett between moderately steep drainages.

C2-01B is located at the northwestern end of Combat Range #2 and encompasses 0.2 acre. C2-01B area, on the lower flanks of Mt. Moffett, lies within a small patch of rolling terrain surrounded on the north and south by inaccessible terrain. There is access to the area only by ARGO all-terrain vehicle or helicopter. This area was investigated in 1999 and 2000. During the 1999 field investigation, two metal fragments were found in this general area. This area was investigated a second time during the 2000 RI. Five anomalies were identified in the area, but were not intrusively investigated in 2000.

Combat Range 2 - C2-01B OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. In 2002, anomalies identified during the 2000 RI were intrusively investigated. A single MD item (fragmentation) was found. Thirty-one anomalies were classified as no finds. The ROD remedy was completed in 2002.

Combat Range 2 - C2-01B OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 2 - C2-01B OU B-1

SUMMARY OF INSPECTION RESULTS:

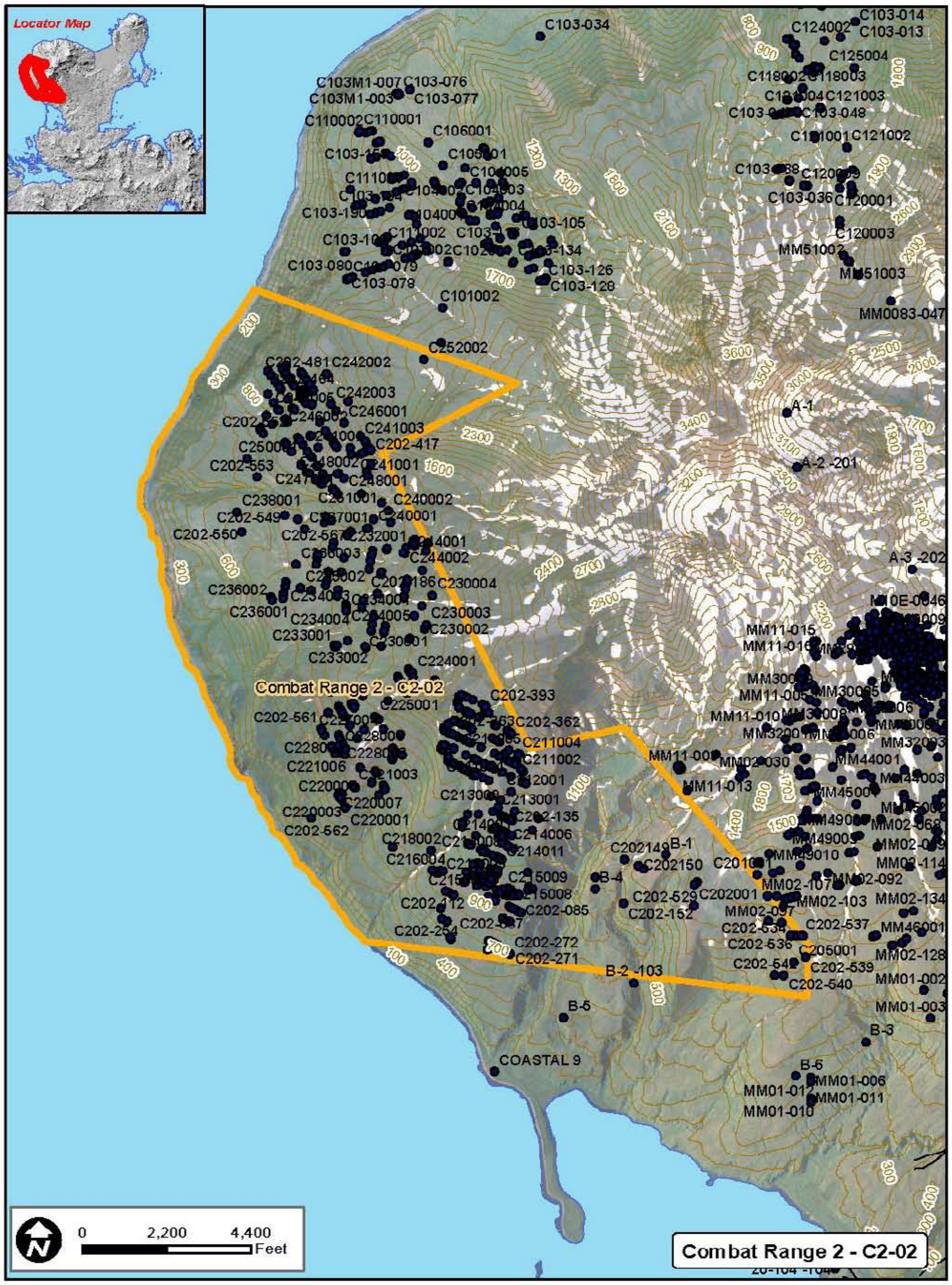
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 101, 129

Combat Range 2 - C2-02 OU B-1



Combat Range 2 - C2-02 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #2 is located northwest of downtown Adak, encompassing the land area on the western flank of Mt. Moffett. Combat Range #2 is approximately 3,401 acres in size and has varied terrain and vegetation. This sector is mainly composed of large sloping plateaus on the side of Mt. Moffett between moderately steep drainages.

Combat Range area C2-02 encompasses the western side of Mt. Moffett and includes all portions of Combat Range #2 that are not included in C2-01A and B. It is characterized by steep terrain and inaccessible slopes. The shoreline along the western boundary of Combat Range #2 is characterized by rocky cliffs with narrow, steep, cobbley beaches. The cliffs prevent access from the ocean side of the range. There is access to the area only by ARGO all-terrain vehicle or helicopter. This area was investigated in 1999 and 2000. During the 1999 field investigation, no ordnance or related material was found in C2-02. This area was investigated a second time during the 2000 RI. Five hundred ninety anomalies were identified in the area, but were not intrusively investigated in 2000.

Combat Range 2 - C2-02 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. In 2002, anomalies identified during the 2000 RI were intrusively investigated. In addition, six 30-meter by 30-meter minigrids were surveyed on MD finds. Fifteen MD items and five metal waste items were recovered. The MD consisted primarily of fragmentation and one exploded PD fuze. Six hundred and seventy-eight anomalies were classified as no finds. The ROD remedy was completed in 2002.

Combat Range 2 - C2-02 | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None

Most Recent Inspection Date: August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required

Monitoring File: Not Applicable

Combat Range 2 - C2-02 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

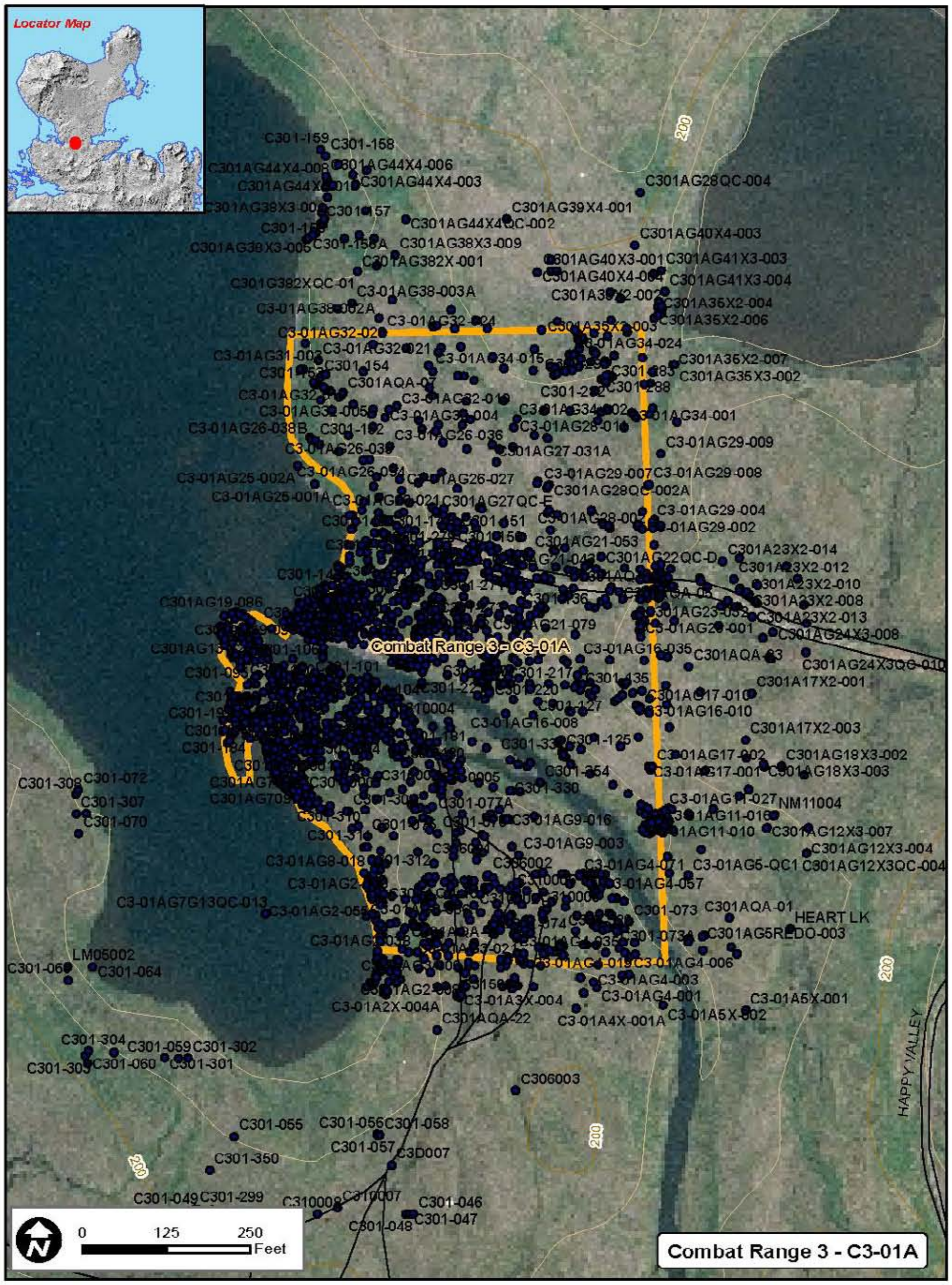
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 101, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 3 - C3-01A OU B-1



Combat Range 3 - C3-01A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #3 is a trapezoidal area southwest of downtown Adak adjacent to Combat Range #6, which lies to the south. The area stretches between Mt. Reed and Shagak Bay and encompasses the Lake DeMarie Impact Area, which is evaluated separately. Combat Range #3 is approximately 6,124 acres (excluding the Lake DeMarie Impact Area) and has a variety of terrain and vegetation. This area is divided north to southeast by the Mt. Reed mountain range. The Eastern Disposal Site (C3-01) is located in the northeastern corner of Combat Range #3.

C3-01A, the Cove Disposal Area, is a portion of the larger rectangular area of C3-01. The area measures about 95 by 315 meters, encompassing 10.5 acres along the eastern shoreline of Heart Lake. The terrain in C3-01A varies, but is relatively flat compared with other outback areas of Adak. There is access to the area via an improved road that runs nearly all the way to the eastern shore of the lake. C3-01A was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk. Numerous ordnance-related items (MEC and MD) were found, many in positions and conditions suggesting disposal activities had taken place in this area. During the RI in 2000, this area was investigated a second time using the prescribed search pattern with search transects spaced at 34.5 meters. Two hundred and thirty-four anomalies were identified for intrusive investigation. MEC and MD were found at numerous locations within this area. Following the determination that the area had heavy utilization for ordnance disposal activities, some of the anomalies in the interior of C3-01A were not intrusively investigated because ample data were already available regarding the nature of ordnance contamination. Instead, efforts were concentrated on bounding the core disposal area to determine the extent of contamination.

Combat Range 3 - C3-01A OU B-1

COCs AND RISKS:

While not specified as COCs in the OU B-1 ROD, site risks addressed in the remedy include ordnance as well as RDX and TNT in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for C3-01A is clearance to 4 feet bgs and chemical sampling, removal, and on-site/off-site treatment and disposal of soils. The remedy was implemented in 2001 and 2002. In 2001, intrusive activity at this site was completed for 22 of 34 grids; however, the site could not be completed during the 2001 field season due to heavy contamination. There were 1,009 anomalies investigated with two UXO and 111 DMM items found. In 2002, the methodology for the intrusive investigation was modified due to high anomaly density, soggy soil conditions, and a high water table. Soil contaminated with ordnance was excavated, spread in 6-inch layers at an off-site laydown area, cleared of MEC and MD using detector-aided search methods, and backfilled in the excavation area. In addition to the 34 grids originally planned for the site, 24 buffer zone expansions also were remediated. During 2002, 19 UXO, 223 DMM, 327 MD, and 576 metal waste items were recovered. Three hundred and ninety-two anomalies were classified as no finds. One hundred and two anomalies were classified as no digs, and four excavations were abandoned. A reason was not provided in the 2002 After Action Report regarding the number of no finds. Although no find verification sample was not performed at C3-01 during the 2002 field activities, it was performed at five other sites. No reason was provided specific to C3-01A regarding the no dig and dig abandoned classifications. However, the report indicated that no dig generally means that digging was stopped for safety reasons due to the presence of standing water or a large rock in the hole. During the 2001 and 2002 field season, all detected anomalies in accessible areas (areas with a slope less than 30 degrees) were intrusively investigated and removed. In addition, the site was originally 10 acres, but increased to the current 18 acres due to grid expansion associated with ordnance finds. The ROD remedy was completed in 2002.

Three soil samples were analyzed for TNT and RDX and reported concentrations were below detection limits.

Combat Range 3 - C3-01A OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date August 27, 200 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

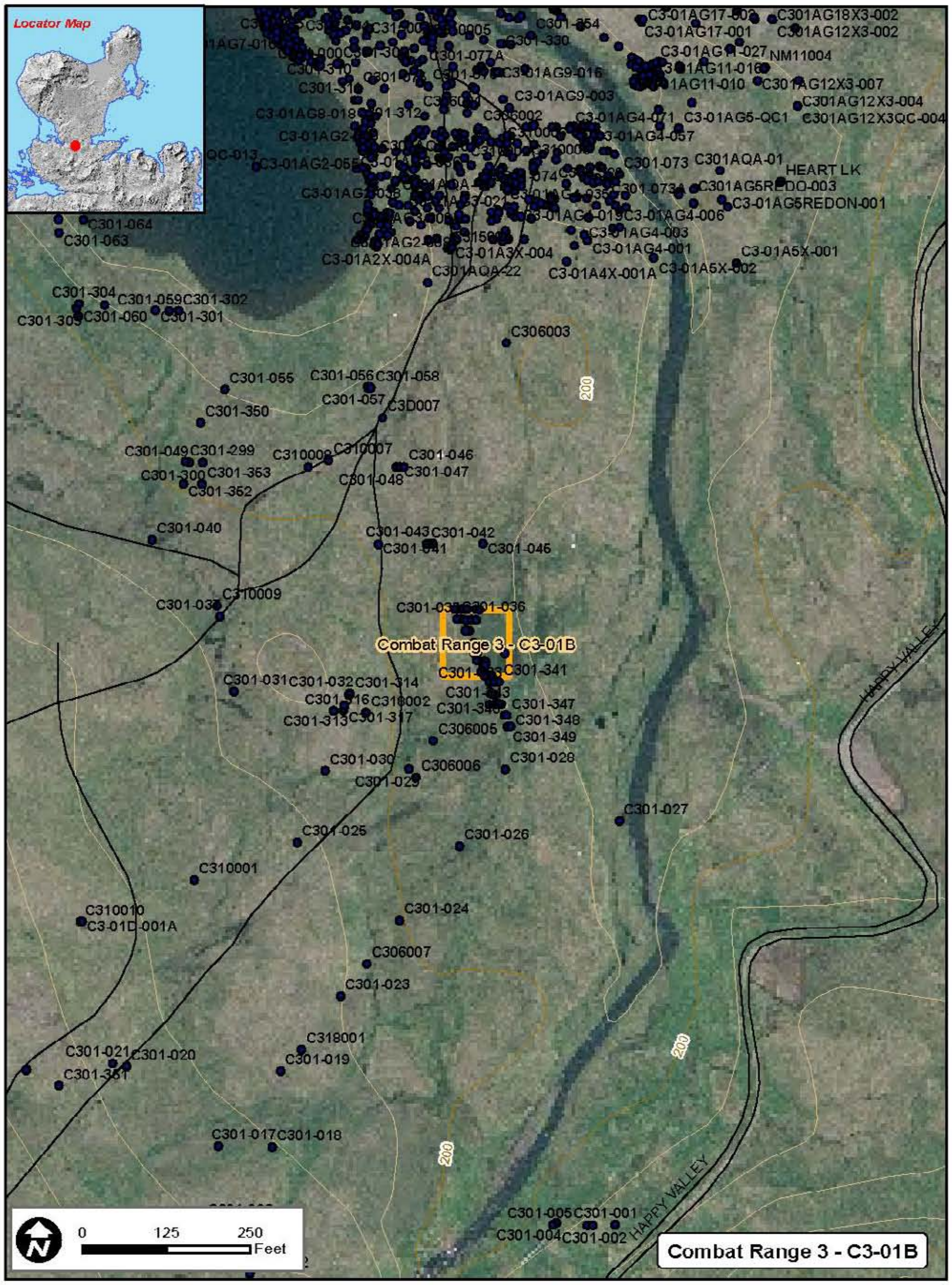
In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. The 2010 IC report recommended an MEC warning sign be placed along the access road to the site due to evidence of recreation use near the site. Additionally, it is recommended Rommel stakes in the publicly accessible area near the Heart Lake shoreline be removed.

BIBLIOGRAPHY:

83, 91, 99, 101, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 3 - C3-01B   OU B-1



Combat Range 3 - C3-01B OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #3 is a trapezoidal area southwest of downtown Adak adjacent to Combat Range #6, which lies to the south. The area stretches between Mt. Reed and Shagak Bay and encompasses the Lake DeMarie Impact Area, which is evaluated separately. Combat Range #3 is approximately 6,124 acres (excluding the Lake DeMarie Impact Area) and has a variety of terrain and vegetation. This area is divided north to southeast by the Mt. Reed mountain range. The Eastern Disposal Site (C3-01) is located in the northeastern corner of Combat Range #3.

C3-01B (Mortar #1) is a 30-by-30-meter square encompassing 0.2 acre. The terrain in C3-01B is relatively flat compared with other outback areas of Adak. There is access to the area via an improved road network in the NAF Magazine Area sector. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through C3-01B one time. The lone mortar found was the only anomaly detected in this area. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for the overall disposal area (C3-01) with search transects spaced at 34.5 meters. One transect passed through the 30-by-30-meter square C3-01B site, and one transect passed just south of the site. No UXO was found within or near the boundaries of the site, suggesting that the mortar was a lone UXO item unrelated to other activities at C3-0IA.

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for C3-01B is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of final characterization work at this site was to confirm that the 81-mm mortar found during the 1999 investigation was a lone item. The remedial action technique used consisted of a geophysical survey in a grid centered on the referenced anomaly with data collected on a 5-meter spacing (transect). Twenty-eight anomalies were identified, and were classified as metal waste. No UXO items were found. The ROD remedy was completed in 2001.

Combat Range 3 - C3-01B — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 3 - C3-01B OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

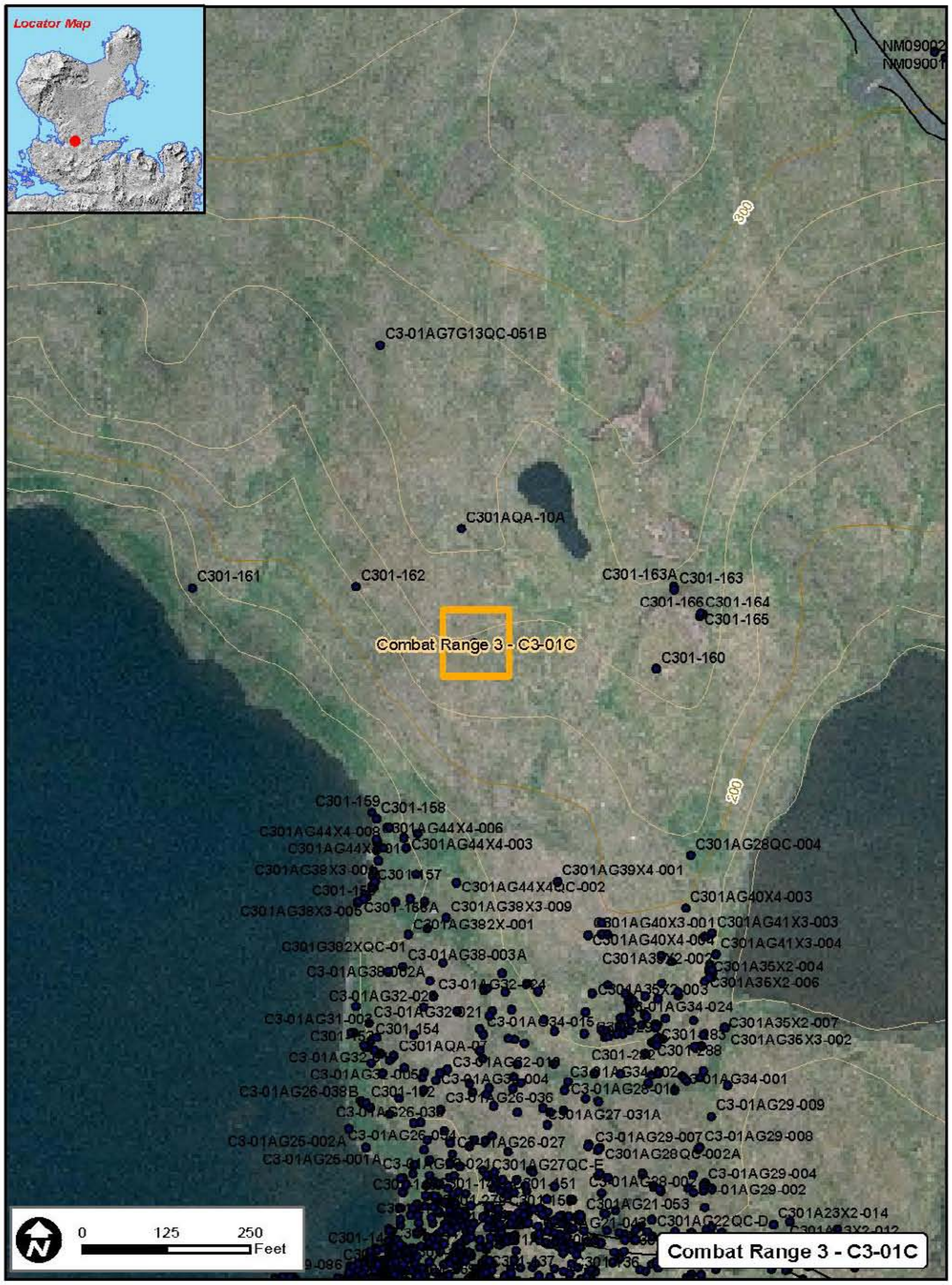
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. Ics appear to be functioning as intended.

BIBLIOGRAPHY:

83, 91, 99, 102, 107, 129

Combat Range 3 - C3-01C **OU B-1**



Combat Range 3 - C3-01C OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #3 is a trapezoidal area southwest of downtown Adak adjacent to Combat Range #6, which lies to the south. The area stretches between Mt. Reed and Shagak Bay and encompasses the Lake DeMarie Impact Area, which is evaluated separately. Combat Range #3 is approximately 6,124 acres (excluding the Lake DeMarie Impact Area) and has a variety of terrain and vegetation. This area is divided north to southeast by the Mt. Reed mountain range. The Eastern Disposal Site (C3-01) is located in the northeastern corner of the Combat Range #3.

C3-01C (Mortar #2) is a 30-by-30-meter square encompassing 0.2 acre. The terrain in C3-0IC is relatively flat compared with outback areas of Adak. There is access to the area via an improved road network in the NAF Magazine Area Sector. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through C3-01C one time. The lone mortar found was the only anomaly detected in this area. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for the overall disposal area (C3-01) with search transects spaced at 34.5 meters. One transect passed through the 30-by-30-meter square C3-01C site, and one transect passed just north of the site. No UXO or related scrap was found near the mortar site, suggesting that the mortar was a lone UXO item unrelated to other activities at C3-0A.

Combat Range 3 - C3-01C OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for C3-01C is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of the final characterization work at this site was to confirm that the 81-mm WP mortar found during the 1999 investigation was a lone item. The remedial action technique used consisted of geophysical survey of the grid with a 5-meter transect mini-grid. There were no anomalies discovered at this site. The ROD remedy was completed in 2001.

Combat Range 3 - C3-01C — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 3 - C3-01C OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

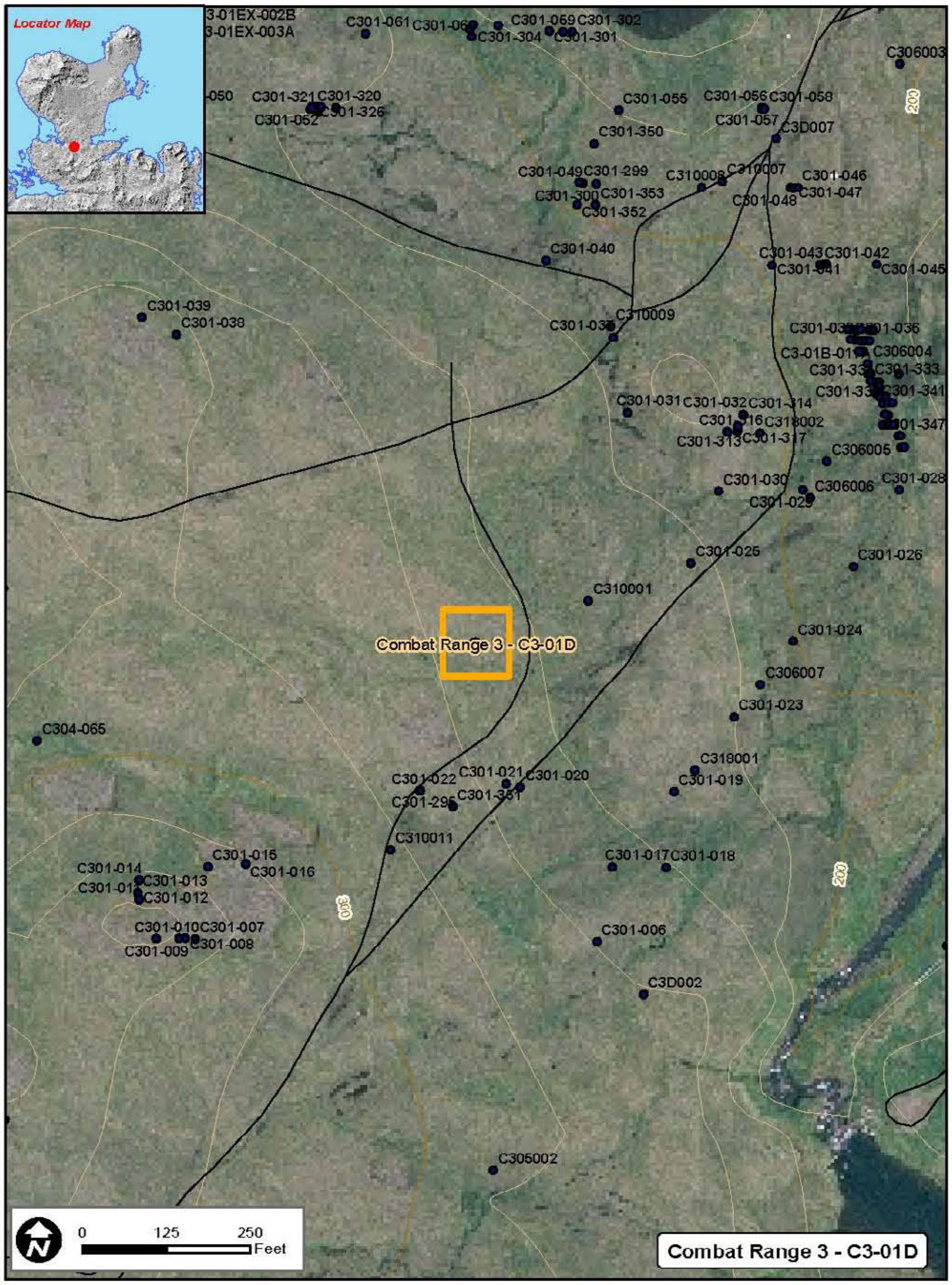
In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. Ics appear to be functioning as intended.

BIBLIOGRAPHY:

83, 91, 99, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 3 - C3-01D | **OU B-1**



Combat Range 3 - C3-01D OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #3 is a trapezoidal area southwest of downtown Adak adjacent to Combat Range #6, which lies to the south. The area stretches between Mt. Reed and Shagak Bay and encompasses the Lake DeMarie Impact Area, which is evaluated separately. Combat Range #3 is approximately 6,124 acres (excluding the Lake DeMarie Impact Area) and has a variety of terrain and vegetation. This area is divided north to southeast by the Mt. Reed mountain range. The Eastern Disposal Site (C3-01) is located in the northeastern corner of Combat Range #3.

C3-01D (Mortar #3) is a 30-by-30-meter square encompassing 0.2 acre. The terrain in C3-01D is relatively flat compared with outback areas of Adak. There is access to the area via an improved road network in the NAP Magazine Area Sector. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through C3-01D one time. The lone mortar found was the only anomaly detected in this area. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for the overall disposal area (C3-01) with search transects spaced at 34.5 meters. One transect passed through the 30-by-30-meter square C3-01D site, and two transects passed north and south of the site. No UXO or related scrap was found near the mortar site, suggesting that the mortar was a lone UXO item unrelated to other activities at C3-01A.

Combat Range 3 - C3-01D OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for C3-01D is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of the final characterization work at this site was to confirm that the 81-mm WP mortar found during the 1999 investigation was a lone item. The remedial action technique used consisted of geophysical survey of the grid with a 5-meter transect mini-grid. One anomaly was investigated at this site and it was classified as MD. The ROD remedy was completed in 2001.

Combat Range 3 - C3-01D — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 3 - C3-01D OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

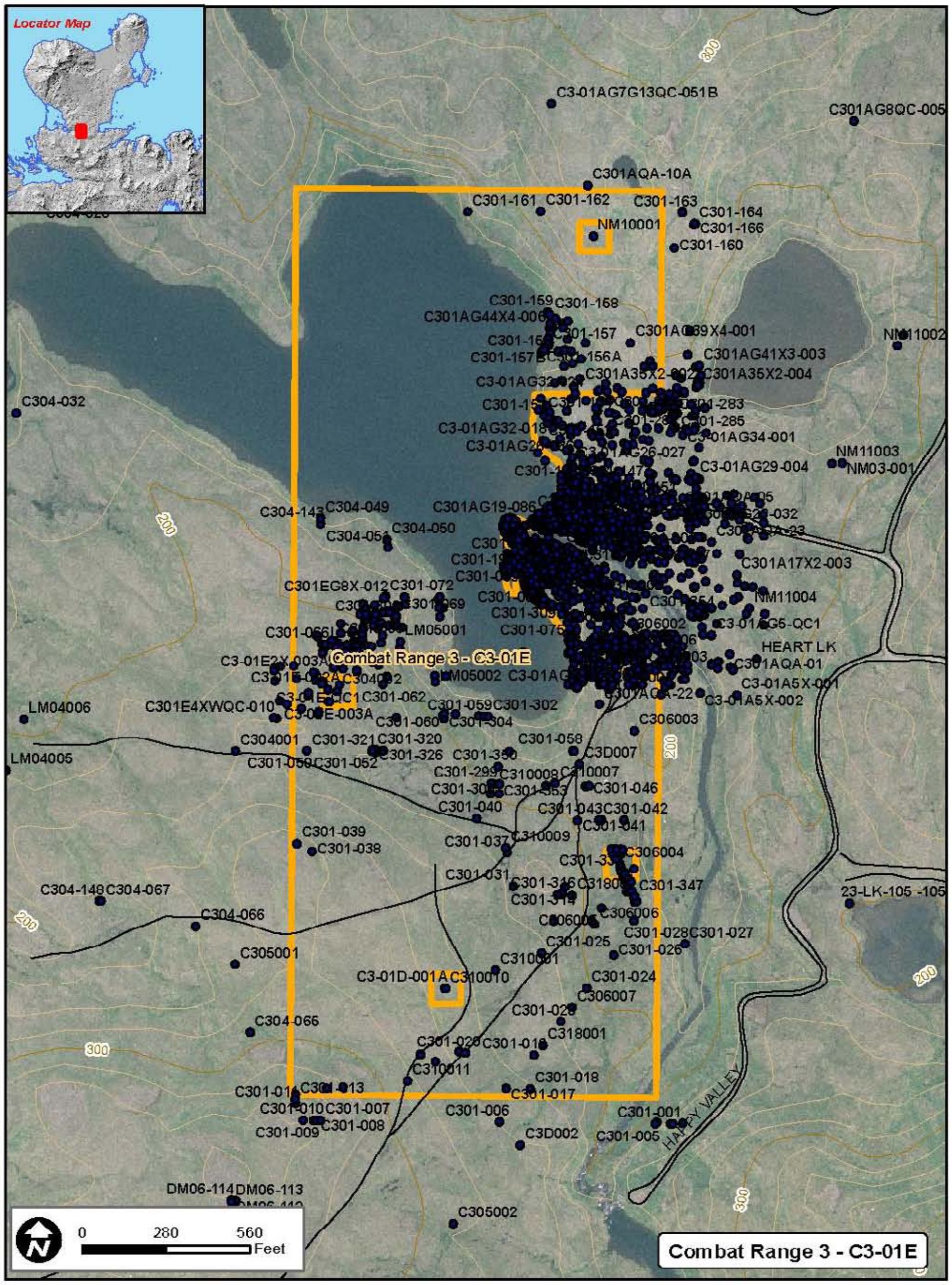
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. Ics appear to be functioning as intended.

BIBLIOGRAPHY:

83, 99, 102, 107, 129

Combat Range 3 - C3-01E (Bomb Tail Fuze) OU B-1



Combat Range 3 - C3-01E (Bomb Tail Fuze) OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #3 is a trapezoidal area southwest of downtown Adak adjacent to Combat Range #6, which lies to the south. The area stretches between Mt. Reed and Shagak Bay and encompasses the Lake DeMarie Impact Area, which is evaluated separately. Combat Range #3 is approximately 6,124 acres (excluding the Lake DeMarie Impact Area) and has a variety of terrain and vegetation. This area is divided north to southeast by the Mt. Reed mountain range. The Eastern Disposal Site (C3-01) is located in the northeastern corner of Combat Range #3.

C3-01E (Bomb Tail Fuze) is a 30-by-30-meter square encompassing 0.2 acre. The terrain in C3-01E is relatively flat compared with outback areas of Adak. There is access to the area via an improved road network in the NAP Magazine Area Sector. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through C3-01E one time. The lone tail fuze found was the only anomaly detected in this area. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for the overall disposal area (C3-01) with search transects spaced at 34.5 meters. One transect passed through the 30-by-30-meter square C3-01E site, and one transect passed south of the site. No UXO or related scrap was found near the fuze site, suggesting that the fuze was a lone item unrelated to other activities at C3-01A.

Combat Range 3 - C3-01E (Bomb Tail Fuze) OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to confirm that the tail fuze found during the 1999 investigation was a lone item. The technique used consisted of a 100 percent geophysical survey of the 30-meter grid. During 2001, the boundary for this area was significantly expanded to the west and northeast of the original boundary due to the presence of DMM and MD. There were 65 anomalies investigated at this site, although no UXO items were found by the conclusion of the 2001 field season. Because DMM and MD were encountered within the 15-meter buffer zone, this site required further investigation in the 2002 field season. Eight buffer zone expansions through 100 percent geophysical survey were completed in C3-01E. One DMM item, 10 MD items, and 13 metal waste items were recovered. The DMM item was a bomb fuze and the MD items included fragmentation and fuze parts. Forty-eight anomalies were classified as no finds. The ROD remedy was completed in 2002.

Combat Range 3 - C3-01E (Bomb Tail Fuze) OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 3 - C3-01E (Bomb Tail Fuze) OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

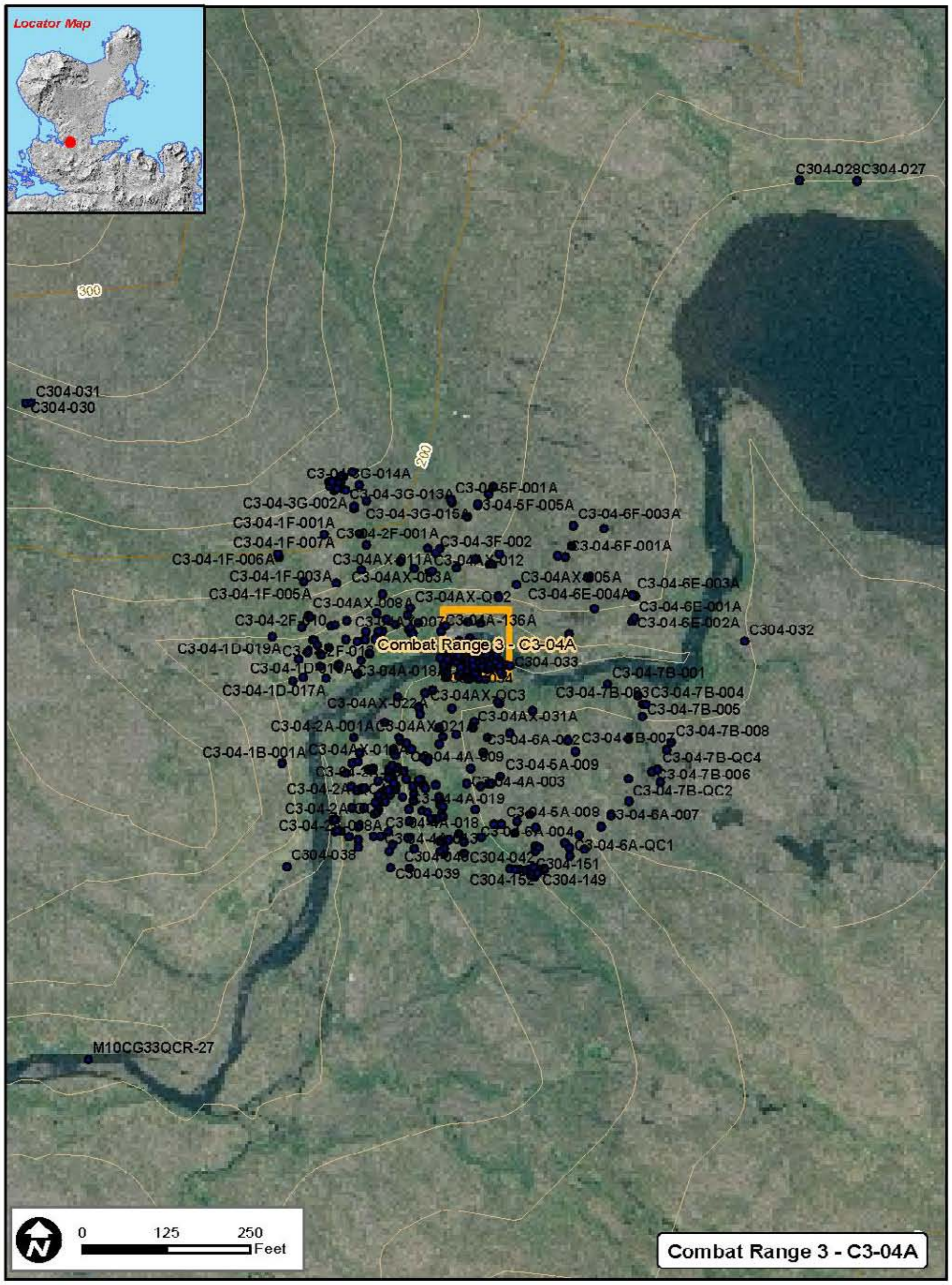
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. Ics appear to be functioning as intended.

BIBLIOGRAPHY:

83, 91, 99, 101, 102, 107, 129

Combat Range 3 - C3-04A OU B-1



Combat Range 3 - C3-04A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #3 is a trapezoidal area southwest of downtown Adak adjacent to Combat Range #6, which lies to the south. The area stretches between Mt. Reed and Shagak Bay and encompasses the Lake DeMarie Impact Area, which is evaluated separately. Combat Range #3 is approximately 6,124 acres (excluding the Lake DeMarie Impact Area) and has a variety of terrain and vegetation. This area is divided north to southeast by the Mt. Reed mountain range. C3-04 encompasses the areas of Combat Range #3 not included in the Lake De Marie Impact Area. The terrain of C3-04 is characterized as rugged and steep.

C3-04A (Bomb Booster) is a small 30-by-30-meter square encompassing 0.2 acre. The terrain in C3-04A is relatively flat compared with other outback areas of Adak. There is access to the area via potential boat landing sites at Shagak Bay to the west: also, a hiking trail passes near the site. Combat Range #3 was investigated in both 1999 and 2000. During the 1999 SI, Combat Range #3 was surveyed utilizing a random ribbon walk. The random ribbon walk did not pass any where near C3-04A. During the RI in 2000, this area was investigated as part of a larger area using the prescribed search pattern for the overall maneuver area (C3-04) with search transects spaced at 105 meters. The single bomb booster found was the only anomaly detected in this area in 2000, and the location of this bomb booster was designated C3-04A. No other UXO or related scrap was found near the booster site, suggesting that the find was a lone item unrelated to other activities at C3-04. The item discovered at this site remained in place following the RI.

Combat Range 3 - C3-04A OU B-1

COCs AND RISKS:

While not specified as COCs in the OU B-1 ROD, site risks addressed in the remedy include ordnance as well as RDX, TNT, and tetryl in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC and to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance as well as chemical sampling, removal, and on-site/off-site treatment and disposal of soils. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to confirm that the bomb booster found during the 2000 investigation was a lone item. The technique used consisted of a geophysical study in the 15-meter expansion areas using 5-meter transects. The boundary for this area was significantly expanded in all directions due to the presence of DMM and MD. Four hundred anomalies were investigated at this site. No UXO items were found. Four DMM items and 208 MD items were found. The booster was one of the DMM items identified and all items were removed/treated during an intrusive remedial action event on October 9, 2001 after a full sweep of the area was completed. This site required NFA since the items discovered were determined to be from the result of a one-time aircraft jettison. The ROD remedy was completed in 2001.

Combat Range 3 - C3-04A OU B-1

Two soil samples collected in 2001 reported ordnance related chemicals below detection limits. Therefore, no soil was removed from the site for treatment and/or disposal.

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 3 - C3-04A — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date 2001 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

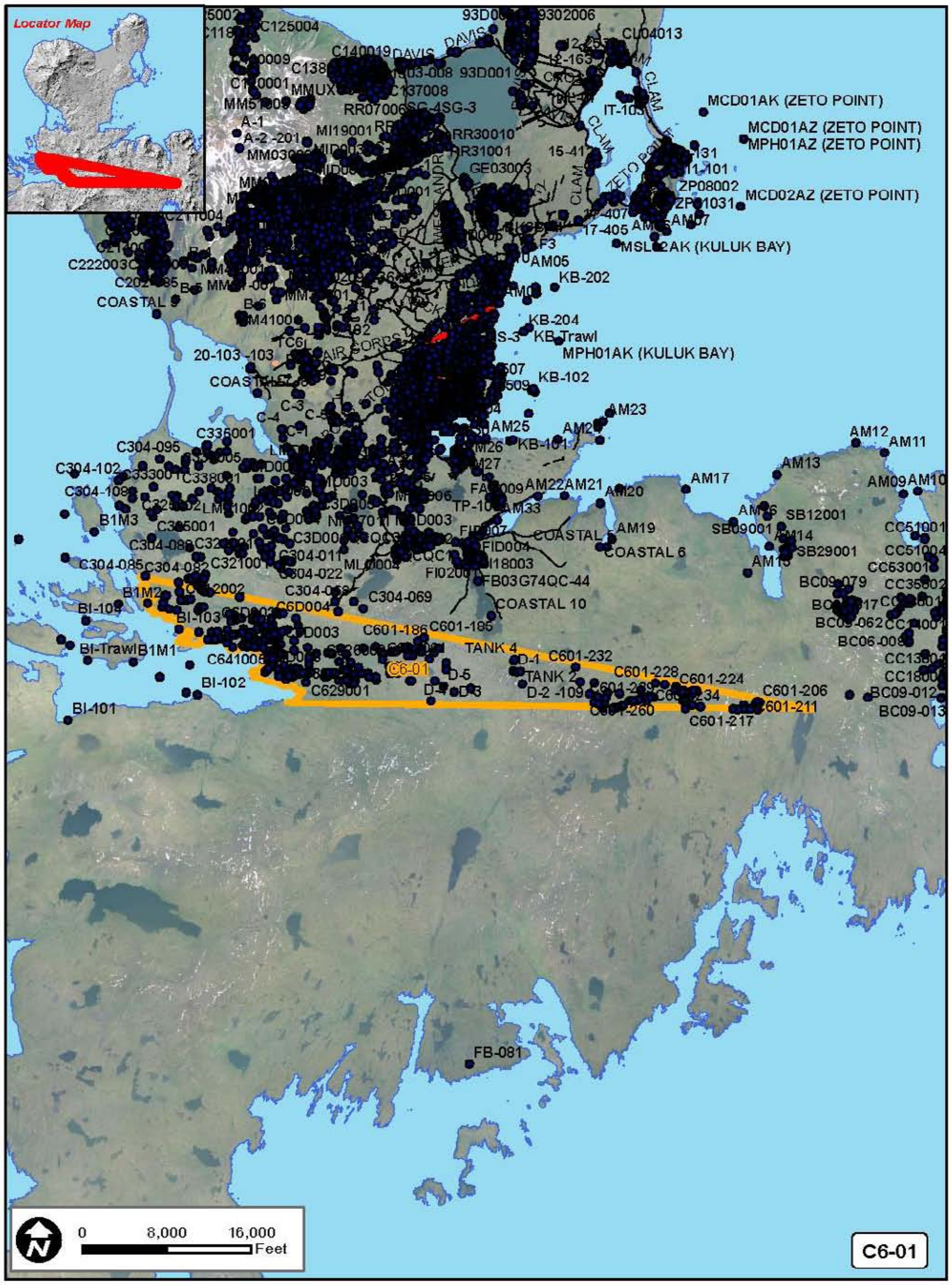
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 6 - C6-01A **OU B-1**



Combat Range 6 - C6-01A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #6 is a triangular area that stretches across the entire width of Adak (east to west) near the military reservation boundary. The orientation is such that a portion of Combat Range #6 is in the military reservation and a portion of the range is located outside the military reservation in the wildlife refuge. Only the portion of Combat Range #6 located in the military reservation was included in the RI/FS investigation. This portion of the sector is approximately 6,820 acres and has a variety of terrain and vegetation. The majority of the topographic formations noted in Combat Range #6 consist of high mountains separated by large wide valleys.

Area C6-01A is a 1-acre portion of Combat Range #6 (C6-01) on the southwest slope of Mt. Reed. The terrain in C6-01A is moderately steep and rolling. There is no formal access to the area because of the lack of improved roads or trails; however, the area is not far from Expedition Harbor on the western shoreline of Adak, where there are potential boat landing sites. This area was not investigated in 1999. Although it was part of the Combat Range #6 sector in 1999, the random ribbon walk used for that investigation did not pass through the C6-01A area. During the RI in 2000, this area was investigated as part of the Combat Range #6 sector investigation using the prescribed search pattern for a maneuver area (transects with 105-meter spacing). Initially a loose cluster of ordnance-related items was found. Two pieces of UXO and one piece of MD were found in one general area. In order to further investigate these finds, a rectangular (approximately 60-meter by 70-meter) area surrounding the three finds was investigated with 5-meter line spacing, leading to the discovery of two more pieces of UXO, along with numerous pieces of MD. A total of 16 anomalies were investigated in this area. Four of the anomalies were UXO. Nine of the anomalies were identified as MD, and the remaining anomalies were classified as no finds.

Combat Range 6 - C6-01A OU B-1

COCs AND RISKS:

While not specified as COCs in the OU B-1 ROD, site risks addressed in the remedy include ordnance and TNT in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for C6-01A is clearance to 4 feet bgs and chemical sampling, removal, and on-site/off-site treatment and disposal of soils. The remedy was implemented in 2001. During the 2001 field season, C6-01A was expanded to encompass additional area as a result of the multiple UXO and MD items found on the eastern boundary of the site during the RI. There were two UXO items found among 158 anomalies investigated. The remaining anomalies were MD, metal waste, or no finds. The two UXO items found were 81-mm mortars. Both were left in place for later disposal and were located within 1 foot of the ground surface. Documentation could not be found verifying that these UXO items were removed. However, the after action report indicated that the remedy was completed in 2001. Complete documentation will be assembled as part of the preparation of the remedial action completion report for OU B-1.

One soil sample collected in 2001 reported ordnance-related chemicals below detection limits. Therefore, no soil was removed from the site for treatment and/or disposal.

Combat Range 6 - C6-01A — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date 2001 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 6 - C6-01A OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

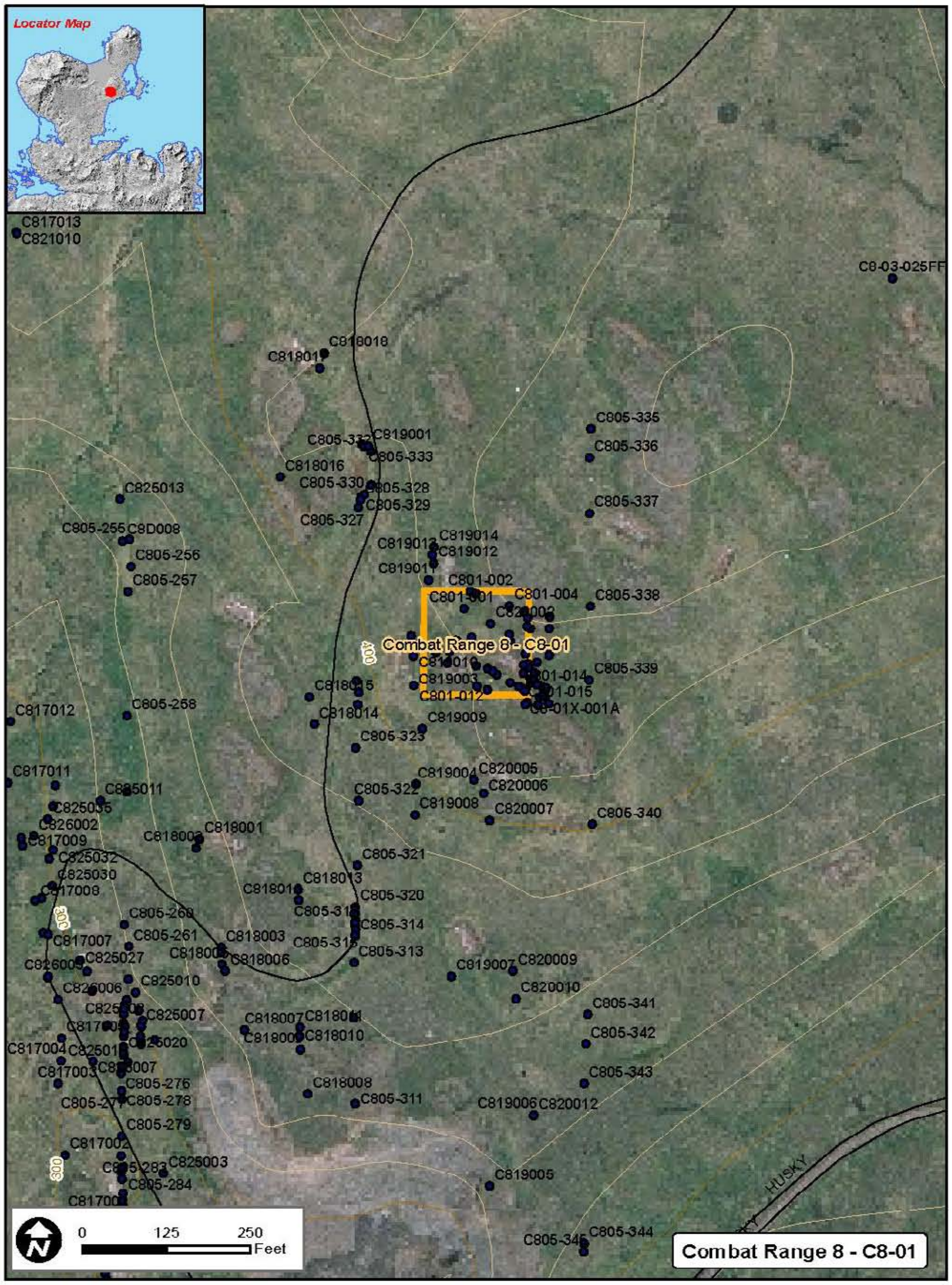
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99,102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 8 - C8-01 OU B-1



Combat Range 8 - C8-01 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

Combat Range #8 is located near the southern tip of Andrew Lake, a short distance east of the lake. The range is approximately 158 acres and encompasses a wide range of terrain and vegetation for a small area. A very large, steep ravine bisects the area from north to south near the eastern side. At the head of this ravine, there is a small lake and associated wetlands. Near the southern border of the sector is a larger lake and another wetland. This sector also contains a manmade rock quarry in the southeastern corner. Near the east end of Combat Range #8, above the rock quarry, there are numerous foundations, piles of wood debris, and trash associated with former Quonset huts or other small buildings. These buildings may have been used to house troops. There is also a cabin located in the western portion of this sector.

The Eastern Disposal Site (C8-01) is located on the eastern boundary of the Combat Range #8 site midway along the boundary in the north/south direction. The terrain is characterized by rolling steep hills and ravines. The area is north of downtown Adak within the core development area. There is access to the area from an improved roadway to the east. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through C8-01 one time. Three pieces of DMM were found at a depth of approximately 4 feet, indicating likely disposal by burial. During the RI in 2000, this area was investigated a second time using the prescribed bound and characterize methodology for a site containing DMM (100 percent geophysical survey and intrusive investigation). Nineteen anomalies were identified and intrusively investigated. Four additional pieces of DMM were found. The remaining anomalies were classified as metal waste.

Combat Range 8 - C8-01 OU B-1

COCs AND RISKS:

While not specified as COCs in the OU B-1 ROD, site risks addressed in the remedy include ordnance as well as TNT and tetryl in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumption clearance and chemical sampling, removal, and on-site/off-site treatment and disposal of soils. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site during the 2001 field season was to delineate the final boundaries of the site. A 100 percent geophysical survey of the subject boundary was utilized due to the items previously discovered. During 2001, 34 anomalies were investigated at this site. There were no UXO items found; however, one DMM item and one MD item were found near the boundary of the site. Based on these findings, additional remedial activity in expansion areas was performed at this site in 2004. The expansion area was 100 percent geophysically surveyed over the entire 0.091-acre area that was necessary to ensure an adequate 5-meter ordnance-free buffer around the previously discovered items. Twenty-two anomalies were targeted, producing 19 pieces of metallic waste and three no finds. No UXO, DMM, or other items of concern were found at this site during the 2004 field season. The ROD remedy was implemented in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Two soil samples collected in 2001 reported ordnance-related chemicals below detection limits. Therefore, no soil was removed from the site for treatment and/or disposal.

Combat Range 8 - C8-01 — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date 2001 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 8 - C8-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

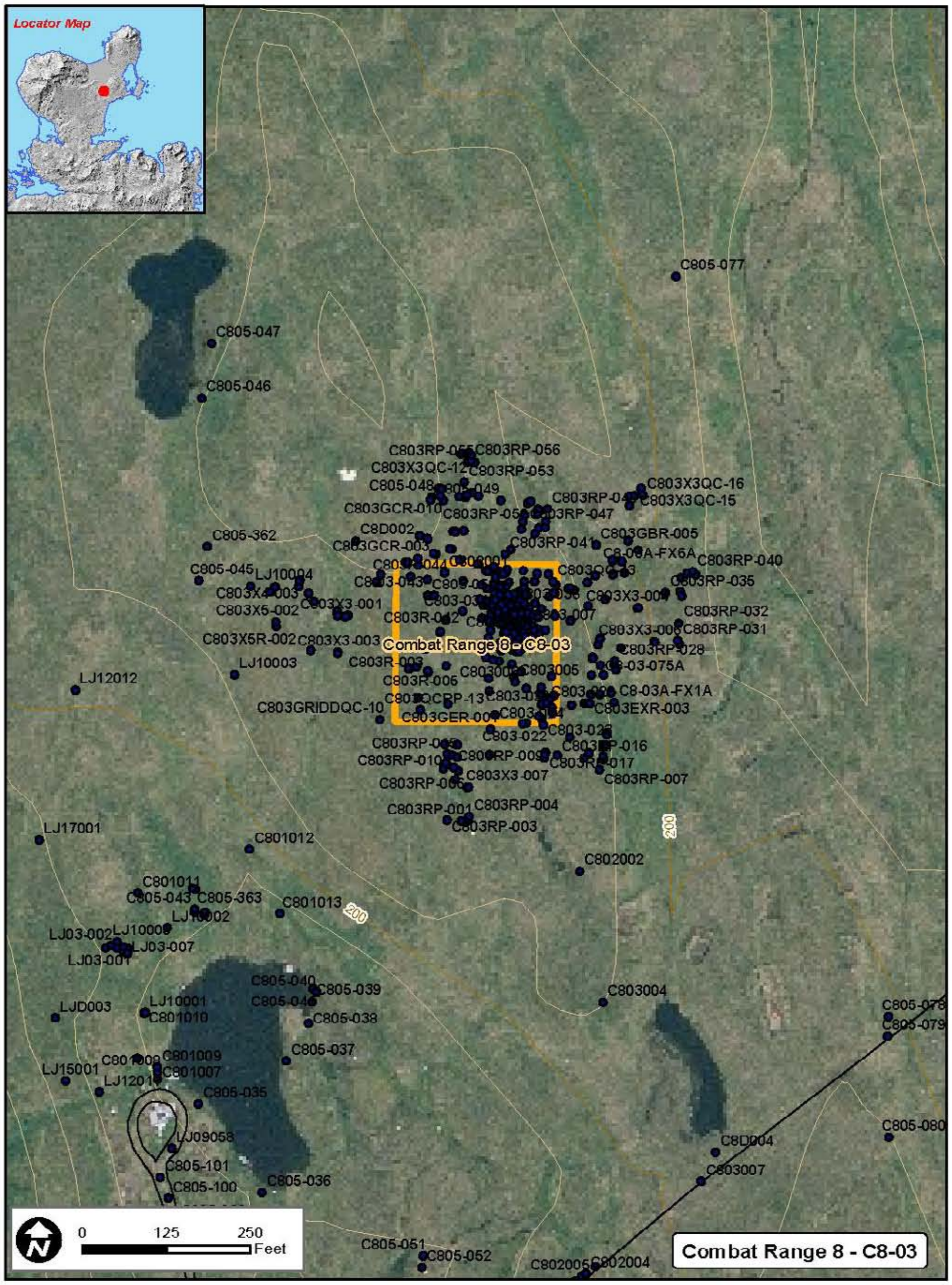
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 102, 106, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 8 - C8-03 OU B-1



Combat Range 8 - C8-03 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #8 is located near the southern tip of Andrew Lake, a short distance east of the lake. The range is approximately 158 acres and encompasses a wide range of terrain and vegetation for a small area. A very large steep ravine bisects the area from north to south near the eastern side. At the head of this ravine, there is a small lake and associated wetlands. Near the southern border of the sector is a larger lake and another wetland. This sector also contains a manmade rock quarry in the southeastern corner. Near the east end of Combat Range #8, above the rock quarry, there are numerous foundations, piles of wood debris, and trash associated with former Quonset huts or other small buildings. These buildings may have been used to house troops. There is also a cabin located in the western portion of this sector.

The Western Disposal Site (C8-03) is located in the northwestern portion of Combat Range #8, about 300 feet northwest of C8-02. The C8-03 terrain is characterized by rolling steep hills and deep ravines. The area is north of downtown Adak within the core development area. There is access to the site via an improved roadway within 400 meters of the site. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through C8-03 twice. DMM items were found including three 20-mm projectiles. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for small sites containing UXO or DMM (100 percent geophysical survey and intrusive investigation). Forty-one anomalies were identified and intrusively investigated. One anomaly was identified as UXO, 22 anomalies were identified as DMM, and 10 anomalies were identified as MD. The remaining eight anomalies were classified as either metal waste or no finds. Several ordnance-related items were located near the boundaries of the site. Because it was uncertain whether the area had been properly bounded, it was recommended that the site be expanded and additional RI work performed to confirm that all items related to the ordnance activities (apparent disposal by abandonment or burial) in this area have been identified. In addition, a single piece of MD was found outside of the site boundaries, and the area surrounding this MD was recommended for inclusion in the expanded search area.

Combat Range 8 - C8-03 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance, as well as munitions constituents in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soil above the cleanup levels. The cleanup levels established in the ROD are based on EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy for this site is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goals of work at this site during the 2001 field season were to determine the final boundaries of the site and to investigate the anomaly located outside the site boundaries. A 100 percent geophysical survey was performed along the southern and eastern border of the original site, as well as around the additional item found outside of the site boundaries. The boundary for the site was expanded to the east due to the presence of DMM. While there were 225 anomalies investigated at this site, no UXO items were found. However, over half (120) of the anomalies investigated were DMM. This site required further expansion at the boundaries due to the presence of DMM at the eastern, southern, and western boundaries. In 2002, three buffer zone expansions through 100 percent geophysical survey were performed. One UXO item, a fuze, was found. Twenty-five DMM items, 93 MD items, and 10 metal waste items were recovered. The DMM items included 20-mm, 37-mm, and 40-mm projectiles, as well as fuzes. One hundred and thirty-seven anomalies were classified as no finds. The ROD remedy was completed in 2002. Complete documentation will be assembled as part of the preparation of the remedial action completion report for OU B-1.

Twenty soil samples were collected between 2001 and 2002. One sample, collected in 2001, reported RDX in soil at a concentration of 5.9 mg/kg, exceeding the cleanup levels established in the ROD. The 2001 and 2002 after action reports did not verify that soil exceeding the cleanup levels was excavated and treated/disposed of off site.

Combat Range 8 - C8-03 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date October 22, 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

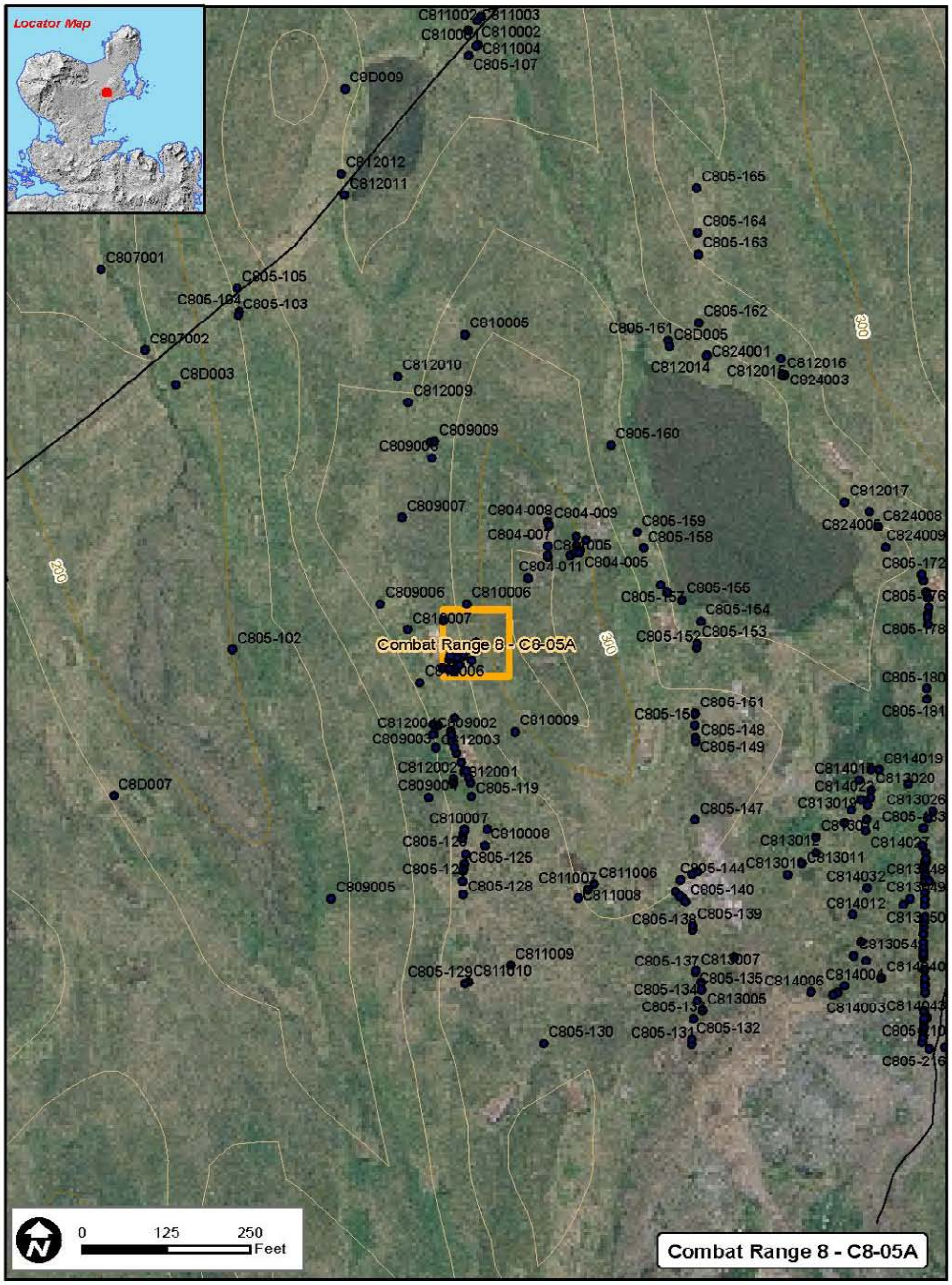
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 101, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Combat Range 8 - C8-05A | OU B-1



Combat Range 8 - C8-05A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Combat Range #8 is located near the southern tip of Andrew Lake, a short distance east of the lake. The range is approximately 158 acres and encompasses a wide range of terrain and vegetation for a small area. A very large, steep ravine bisects the area from north to south near the eastern side. At the head of this ravine, there is a small lake and associated wetlands. Near the southern border of the sector is a larger lake and another wetland. This sector also contains a manmade rock quarry in the southeastern corner. Near the east end of Combat Range #8, above the rock quarry, there are numerous foundations, piles of wood debris, and trash associated with former Quonset huts or other small buildings. These buildings may have been used to house troops. There is also a cabin located in the western portion of this sector.

C8-05A is a small 30- by 30-meter square portion of C8-05 encompassing approximately 0.2 acre. The terrain in this area is moderately steep. There is access to the area via an improved roadway within 400 meters of the site. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through C8-05A one time. No UXO was found. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for a combat range (105-meter transect spacing). A single anomaly was identified and intrusively investigated. The anomaly was a discarded military munition (20-mm projectile) and is suspected of being a lone item.

COCs AND RISKS:

While not specified as COCs in the OU B-1 ROD, site risks addressed in the remedy include ordnance, as well as TNT and RDX in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance and chemical sampling, removal, and on-site/off-site treatment and disposal of soils. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to determine if the single 20-mm projectile found during the 2000 RI is a lone item. The technique used consisted of a 100 percent survey of the 30-meter square grid. Fifteen anomalies were investigated at this site and no MEC or MD items were found. The boundary for this area was not expanded, since excavation of the anomalies yielded only metal waste. The ROD remedy was completed in 2001.

Three soil samples were collected in 2001 and reported ordnance-related chemicals at concentrations below cleanup goals established in the ROD. Therefore, no soil was removed from the site for treatment and/or disposal.

Combat Range 8 - C8-05A OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date 2001 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Combat Range 8 - C8-05A — OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

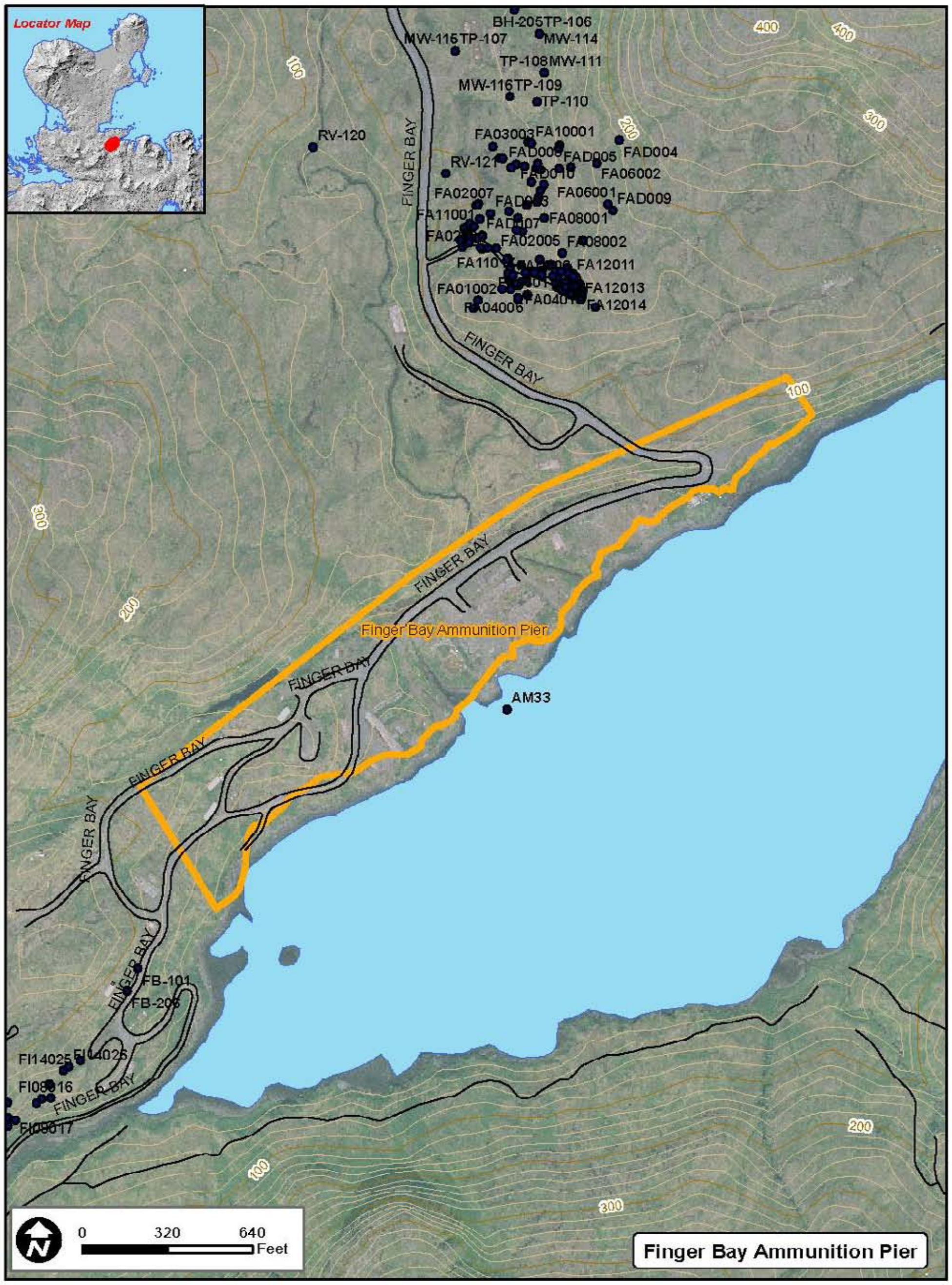
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 99, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Finger Bay Ammunition Pier - FBAP-02 **OU B-1**



Finger Bay Ammunition Pier - FBAP-02 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

FBAP-02 is the area underlying the location of the former Finger Bay Ammunition Pier. The pier was formerly located along the north shoreline of Finger Bay, a fjord-like inlet south of downtown Adak. The 300-foot L-shaped wooden pier was used to off-load ordnance during WWII. The terrain in the area where the pier met the shoreline is relatively flat and somewhat rocky. There is no known documentation of offshore abandonment or disposal of ordnance into the water from any of the pier-related military activities. However, it is possible that ordnance may have been dropped from the pier during off-loading or handling.

Finger Bay Ammunition Pier - FBAP-02 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. Potential explosive-related chemical risks to ecological receptors were also investigated.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soil above the cleanup levels. The cleanup levels established in the ROD are based on EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At FBAP-02, the reconnaissance survey was an underwater dive, which was performed in 2001. The goal of this dive was to determine whether any unauthorized abandonment of ordnance occurred at the site. Observational data collected during the reconnaissance survey revealed that no ordnance-related materials (MEC or MD) were observed at this site. Since no MEC or MD was identified during the reconnaissance survey, the site was designated NFA and the ROD remedy was completed in 2001.

Finger Bay Ammunition Pier - FBAP-02 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Finger Bay Ammunition Pier - FBAP-02 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

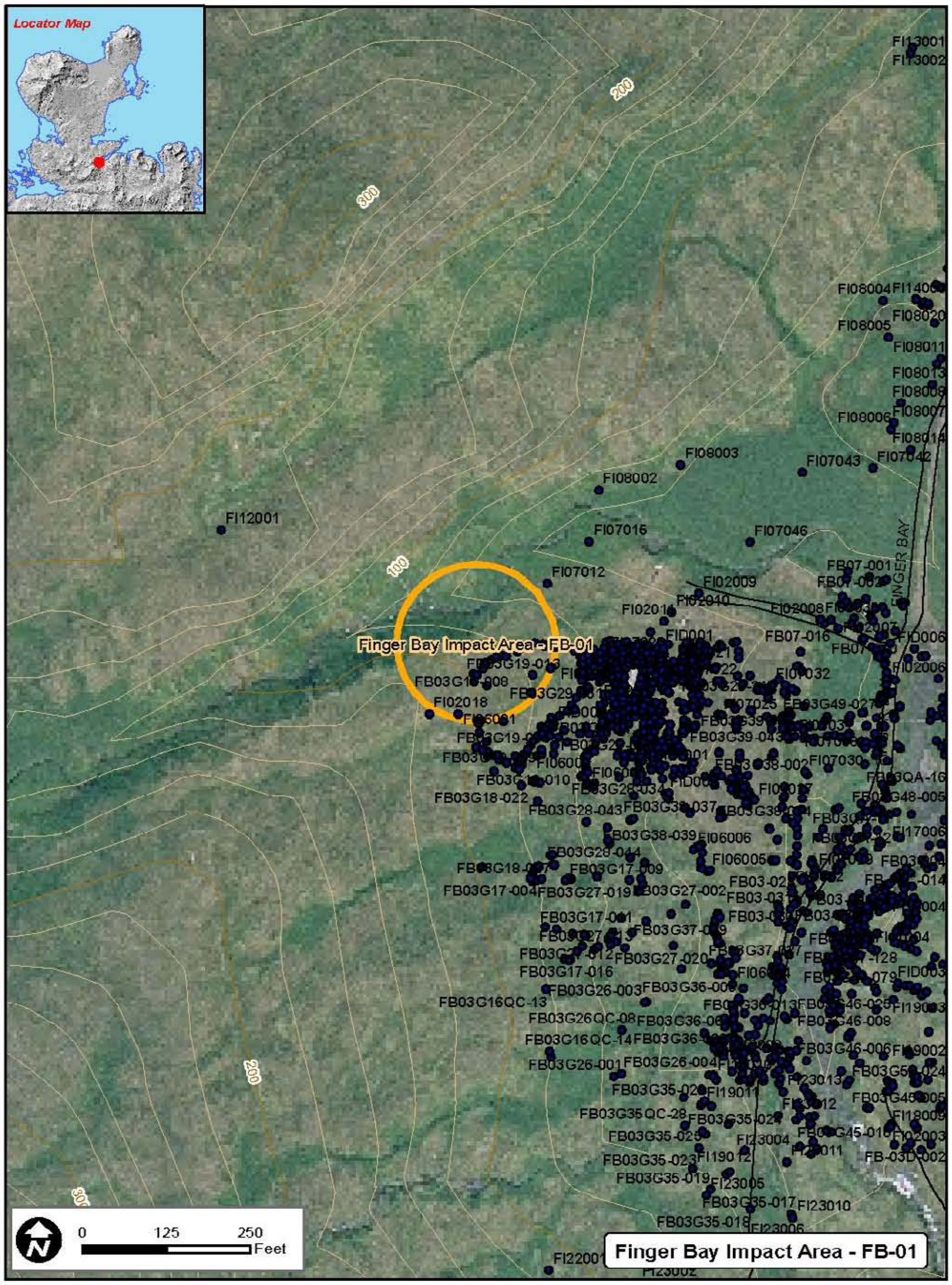
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 129

Environmental Restoration Site Report
Adak Island, Alaska

Finger Bay Impact Area - FB-01 OU B-1



Finger Bay Impact Area - FB-01 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Finger Bay Impact Area is located southeast of downtown Adak and upgradient from the head of Finger Bay. This sector is about 446 acres and has a variety of terrain and vegetation. A large stream running north between Lake Betty and Finger Bay bisects the area. Some structural remnants are visible in the Finger Bay Impact Area. West of the stream basin, fence poles and small wooden foundations are visible.

FB-01, Mortar Firing Point, is a circular area approximately 200 feet in diameter, which has been identified from historical photographs as the firing point for the mortar anomaly area within the Finger Bay Impact Area. The terrain in this area is relatively flat, sloping gently toward the creek at the center of the Finger Bay Impact Area. This area was investigated during the 1999 field effort and no ordnance or MD was found. To support the 1999 findings, additional investigation was needed to determine whether this area should be subject to further geophysical survey activities.

Finger Bay Impact Area - FB-01 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At FB-01, the reconnaissance survey was performed in 2001. The goal of work was to determine whether any unauthorized burial or abandonment of ordnance occurred at this site. Reconnaissance data collected showed no indication of contamination by MEC or MD and no UXO items were observed. Since no MEC was identified during the reconnaissance survey, the site was designated NFA and the ROD remedy was completed in 2001.

Finger Bay Impact Area - FB-01 — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None — **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required — **Monitoring File:** Not Applicable

Finger Bay Impact Area - FB-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

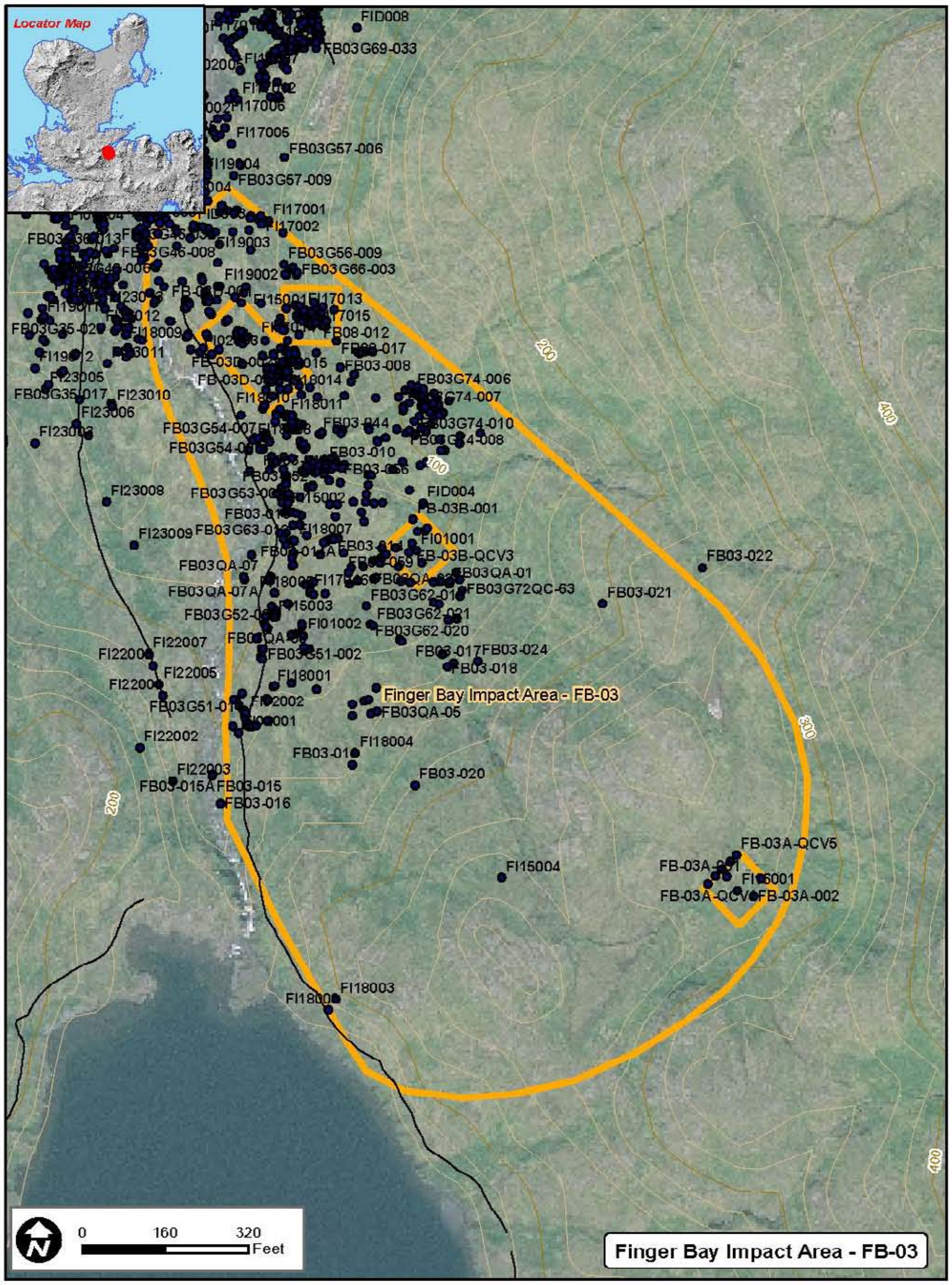
In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. Ics appear to be functioning as intended. Evidence of recreational land use in FB-01 was noted, and it is recommended that an MEC warning sign be installed at the trailhead at the end of Finger Bay Cove Road.

BIBLIOGRAPHY:

83, 91, 99, 102, 129

Environmental Restoration Site Report
Adak Island, Alaska

Finger Bay Impact Area - FB-03 **OU B-1**



Finger Bay Impact Area - FB-03 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Finger Bay Impact Area is located southeast of downtown Adak and upgradient from the head of Finger Bay. This sector is about 446 acres and has a variety of terrain and vegetation. A large stream running north between Lake Betty and Finger Bay bisects the area. Some structural remnants are visible in the Finger Bay Impact Area. West of the stream basin, fence poles and small wooden foundations are visible.

FB-03, Mortar Impact Area, begins about 1,000 feet from the Mortar Firing Point site and continues out to a distance of about 2,500 feet. This site is an irregular shape and encompasses approximately 30 acres. It includes a hillside southeast of the known firing point for the mortars and a lowland area near a creek separating the likely impact area from the firing point. There is access to the area via a roadway serving the firing point and small arms ranges located northeast of the site. There also is boat access from Finger Bay and a hiking trail meanders through the area to Lake Betty. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through FB-03 numerous times. No UXO was found; however, several pieces of fragmentation associated with mortars were located. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for a 60-mm mortar impact area (34.5-meter spacing). Ninety-five anomalies were identified and intrusively investigated. Multiple MD items were discovered; however, no UXO was found. Seventy-one anomalies were identified as MD. The remaining anomalies were classified as metal waste, no finds, or other waste.

Finger Bay Impact Area - FB-03 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site in 2001 was to determine whether the MD items found during the 2000 investigation were lone items. The technique used consisted of a geophysical survey of the 30-meter square grids with 5-meter transect minigrids centered on the referenced anomalies. The site was divided into four sub-sites called FB-03A through FB-03D, corresponding to the previously-identified anomalies. Geophysical work was completed at sites FB-03A and FB-03B during the 2001 field season. The investigation area expanded well beyond the initial two grids for FB-03C and FB-03D to nearly 13 acres. Because of this, the geophysical survey of FB-03C and FB-03D were not completed during the 2001 field season. Fifty-seven anomalies were investigated at these four sub-sites and two UXO items were found. Sites FB-03C and FB-03D contained the UXO and MD. The UXO items included a 3.5-inch bazooka round found at FB-03C and a 2.36-inch anti-tank rocket found at FB-03D. UXO and MD were not found at FB-03A or FB-03B.

During the 2002 field season, 38 50-meter by 50-meter 100 percent geophysical survey grids were completed. One thousand nine hundred and eighty five anomalies were investigated at FB-03. Nine UXO items, 49 DMM items, 653 MD items, and 1,274 metal waste items were recovered. The nine UXO items included a hand grenade, rifle grenade, and 2.36-inch rockets. Three exception areas were not completely excavated. One exception area included anomalies associated with a heavy cargo sled. The second area included anomalies associated with a large electric motor bolted to a concrete pad, and the final exception area included anomalies associated with a maintenance area, wooden structures, and a small arms firing line. The Project Team approved these exceptions. One hundred and sixty-seven anomalies were classified as no finds, 110 anomalies were classified as no dig, and three excavations were abandoned. A reason was not provided in the 2002 After Action Report regarding the number of no finds. Although no find verification sampling was not performed at FB-03 during the 2002 field activities, it was performed at five other sites. No reason was provided specific to FB-03 regarding the no dig and dig abandoned classifications. However, the report indicated that no dig generally means that digging was never started due to standing water or other obstacle at the site, and dig abandoned generally means that digging was stopped for safety reasons due to the presence of standing water or a large rock in the hole. The ROD remedy was completed in 2002.

Six soil samples were collected between 2001 and 2002 during clearance activities. Ordnance-related chemicals were not detected in any of the samples analyzed. Therefore, no soil was removed from the site for treatment and/or disposal.

Finger Bay Impact Area - FB-03 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date August 27, 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Finger Bay Impact Area - FB-03 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information. In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review.

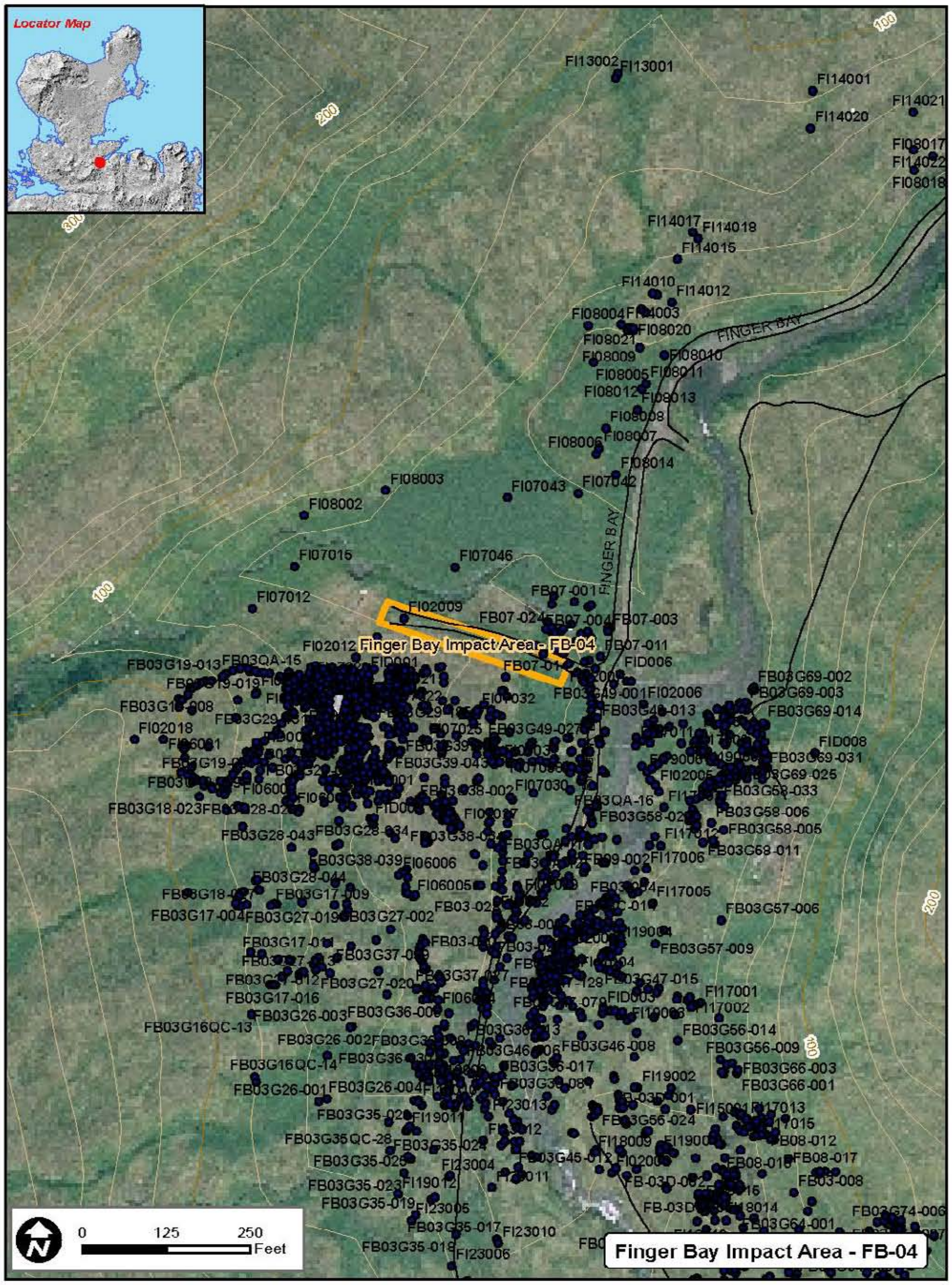
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

49, 83, 91, 99, 101, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Finger Bay Impact Area - FB-04 OU B-1



Finger Bay Impact Area - FB-04 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

Finger Bay Impact Area is located southeast of downtown Adak and upgradient from the head of Finger Bay. This sector is about 446 acres and has a variety of terrain and vegetation. A large stream running north between Lake Betty and Finger Bay bisects the area. Some structural remnants are visible in the Finger Bay Impact Area. West of the stream basin, fence poles and small wooden foundations are visible.

FB-04 is a narrow rectangular area encompassing 0.2 acre identified as the firing point for projectiles in the Finger Bay Impact Area. Unfired ordnance may have been stored, dropped, discarded, or disposed of during WWII, but the ordnance used would not have been carried long distances because of its heavy weight. The terrain is relatively flat and the area is adjacent to a dirt roadway that enters the range area. This area was investigated during the 1999 field effort and no ordnance or MD was found. To support the 1999 findings, additional investigation was needed to determine whether this area should be subject to further geophysical survey activities.

Finger Bay Impact Area - FB-04 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At FB-04, the reconnaissance survey was performed in 2001. The goal was to determine whether any unauthorized burial or ordnance abandonment occurred at this site. Reconnaissance data collected showed no indication of contamination by ordnance-related materials and no UXO items were observed. Since no MEC was identified during the reconnaissance survey, the site was designated NFA and the ROD remedy was completed in 2001.

Finger Bay Impact Area - FB-04 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Finger Bay Impact Area - FB-04 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 129

Gun Emplacements - GUN-01 OU B-1

Gun Emplacements - GUN-01 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

GUN-01 is composed of four general locations (gun sites 2, 5, 27, and 35) thought to have been 20-mm gun emplacements during WWII. Each of the four gun emplacements is considered to be approximately 30 meters square in order to provide space for the weapons, ammunition storage, and trenching or shelter for the gunners. The terrain at GUN-01 is relatively flat. The exact locations of these four sites are not well documented and none of the sites were inspected or investigated during the 1999 SI or the 2000 RI.

Gun Emplacements - GUN-01 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At GUN-01, the reconnaissance survey was performed in 2001. The goal of work was to determine whether any unauthorized burial or abandonment of ordnance occurred at this site. Reconnaissance data collected revealed the presence of MD. The MD found was determined to not be from the firing point at GUN-01. The end caps found are simply packing materials. Therefore, no further investigation was warranted and the ROD remedy was completed in 2001.

Gun Emplacements - GUN-01 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Gun Emplacements - GUN-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

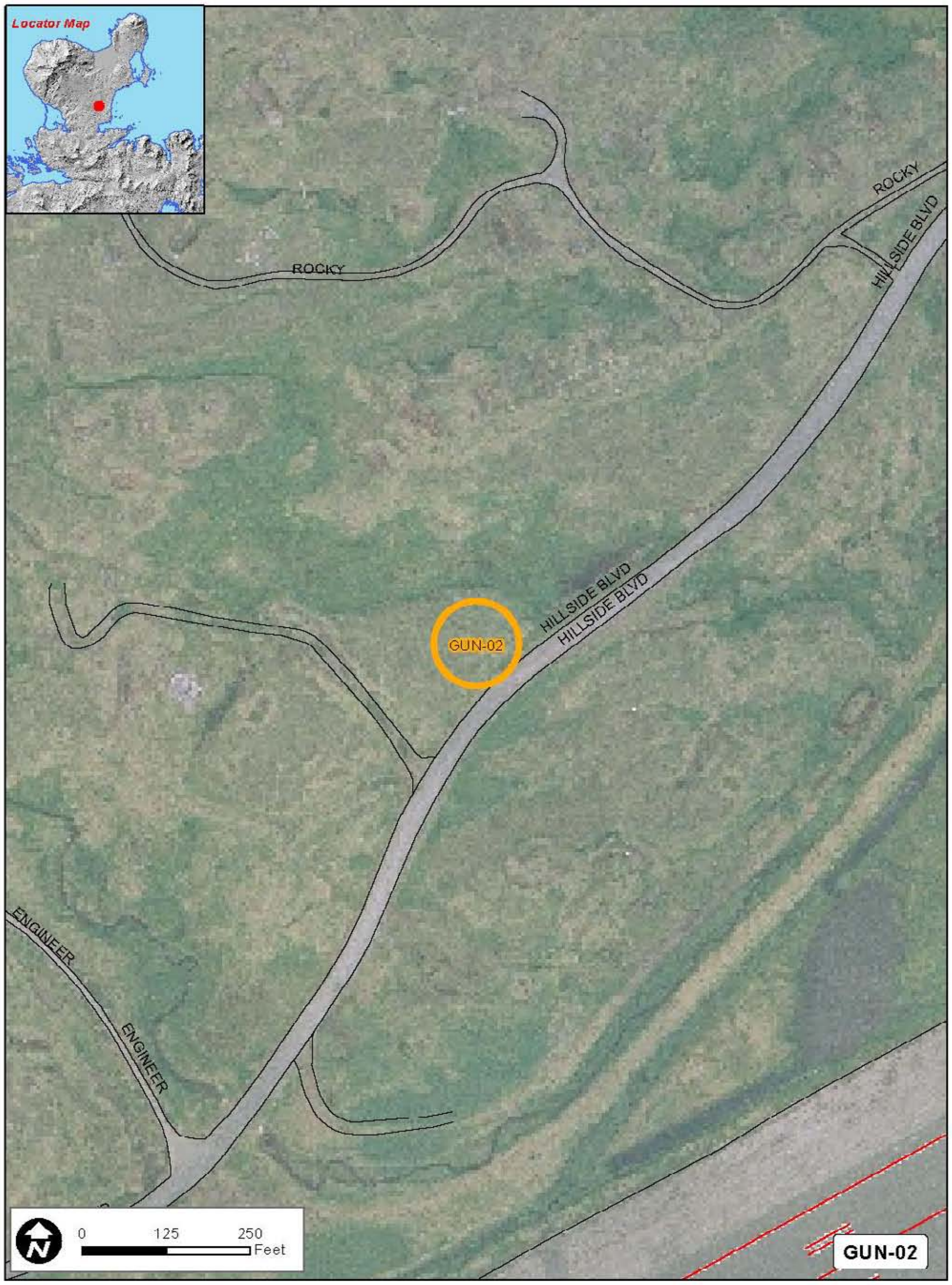
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 129

Environmental Restoration Site Report
Adak Island, Alaska

Gun Emplacements - GUN-02 OU B-1



Gun Emplacements - GUN-02 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

GUN-02 is made up of two general locations (gun sites 28 and 33) thought to have been 37-mm gun emplacements during WWII. Each of the two gun emplacements is believed to be 30 meters square in order to provide space for the weapons, ammunition, and personnel. The terrain at GUN-02 is relatively flat to allow gun placement. The exact locations of these four sites are not well documented and none of the sites were inspected or investigated during the 1999 SI or the 2000 RI.

Gun Emplacements - GUN-02 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At GUN-02, the reconnaissance survey was performed in 2001. The goal of work was to determine whether any unauthorized burial or abandonment of ordnance occurred at this site. Reconnaissance data collected revealed the presence of DMM in the form of a non-electrical blasting cap. This non-electrical blasting cap is not associated with activity at the firing point at GUN-02. Therefore, no further investigation was warranted and the ROD remedy was completed in 2001.

Gun Emplacements - GUN-02 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

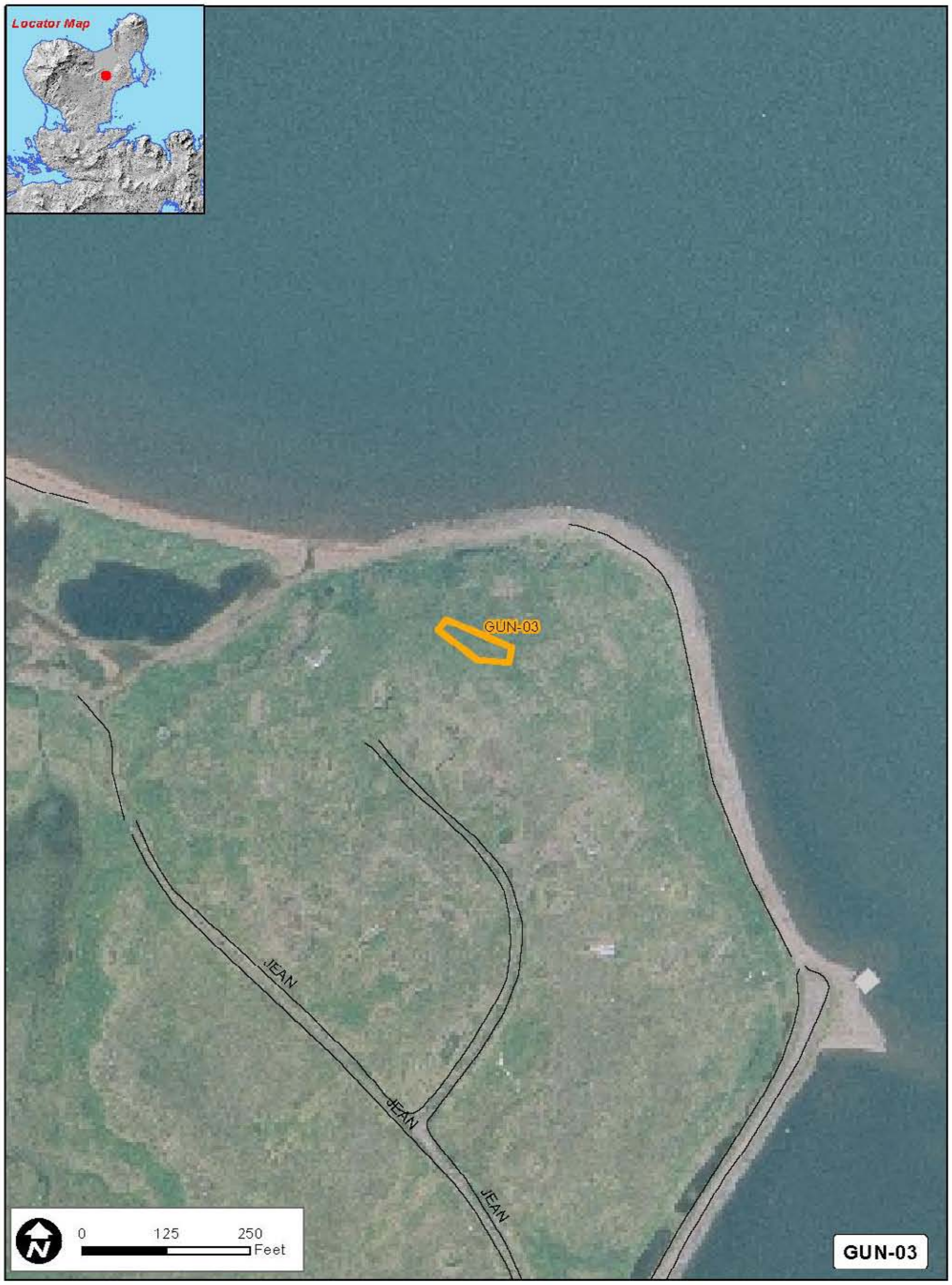
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 99, 102, 129

Gun Emplacements - GUN-03 OU B-1



Gun Emplacements - GUN-03 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

GUN-03 is made up of 29 general locations (gun sites 1, 3, 4, 6-26, 29-32, and 34) thought to have been 40-mm gun emplacements during WWII. Each of the 29 gun emplacements is believed to be 30 meters square to provide space for the weapons, ammunition, and personnel. The terrain at GUN-03 is relatively flat to allow gun placement. Two 40-mm gun locations were identified in the field and investigated during the 1998 investigation of the Priority II Area of Adak. A third site was investigated during the 1999 investigation, but the remaining 26 sites were not investigated unless they happened to fall within or near the randomly selected grids in the 1997 and 1998 investigations. No UXO was found at any of these three sites.

Gun Emplacements - GUN-03 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At GUN-03, the reconnaissance survey was performed in 2001. The goal of work was to determine whether any unauthorized burial or abandonment of ordnance occurred at this site. No UXO or ordnance-related materials were found during the reconnaissance survey. Therefore, no further investigation was warranted and the ROD remedy was completed in 2001.

Gun Emplacements - GUN-03 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Gun Emplacements - GUN-03 OU B-1

SUMMARY OF INSPECTION RESULTS:

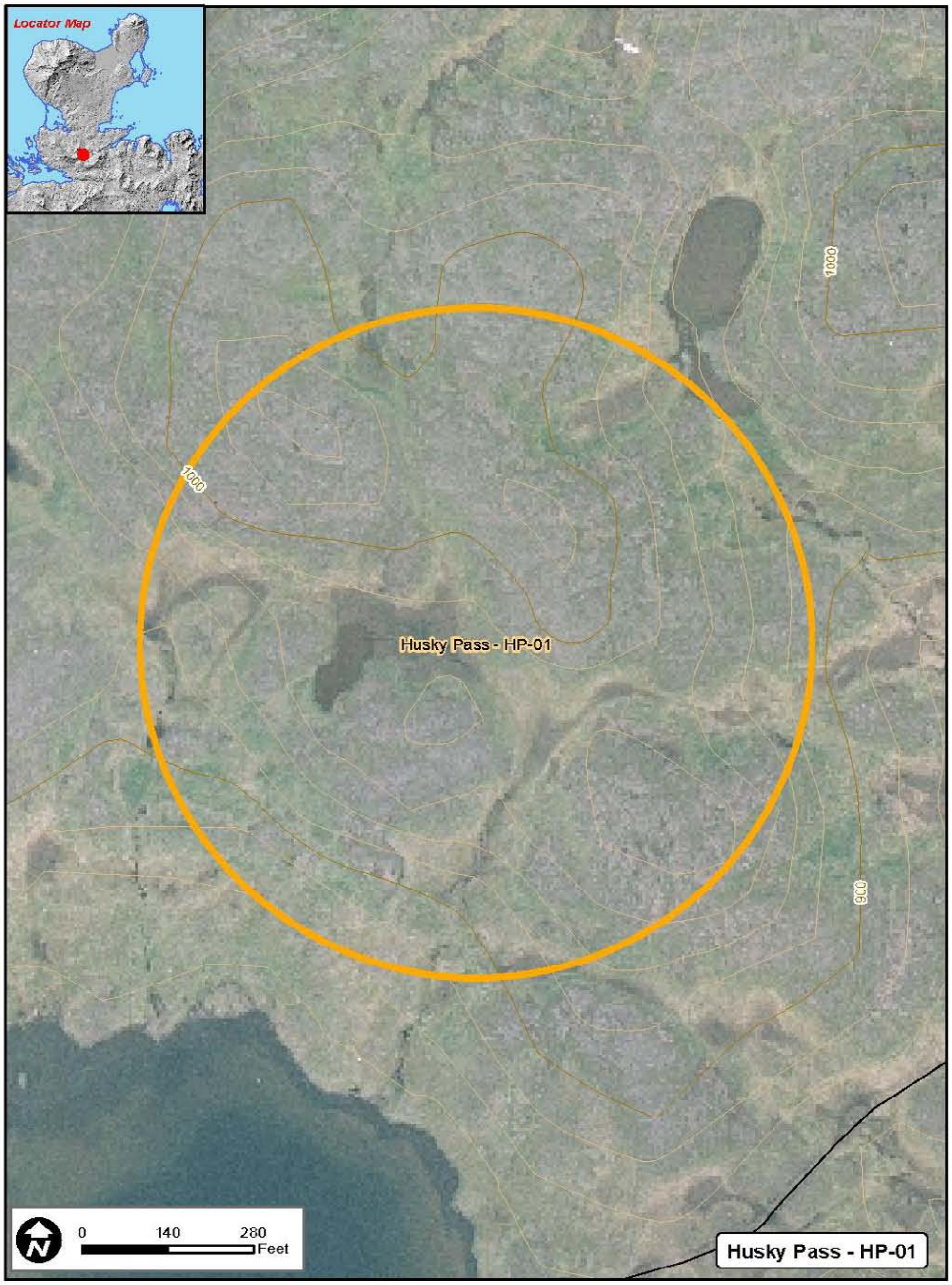
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 129

Husky Pass - HP-01 OU B-1



Husky Pass - HP-01 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

This area consisted of two 81-mm firing points and three impact areas, all in the vicinity of Lake Bonnie Rose and Husky Pass. Although bounded by some of the most rugged terrain on Adak Island, the terrain in these areas is relatively flat near the lake, rising to steep hills and ravines. The firing points are northwest of Husky Pass and west of Lake Bonnie Rose. The impact areas are located on top of the peaks that make up Mt. Reed. HP-01 was not investigated during the 1999 SI and 2000 RI, because this site was identified after these field activities occurred through an archive search.

Husky Pass - HP-01 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 RO,D the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At HP-01, the reconnaissance survey was performed in 2001. The goal of work was to determine whether any unauthorized burial or abandonment of ordnance occurred at this site. Reconnaissance data collected revealed the presence of small arms ammunition casings (.30 and .308 caliber), one unfired .308 round, and what appeared to be the tail boom of an 81-mm mortar. Further investigation was not warranted, and the ROD remedy was completed in 2001.

Husky Pass - HP-01 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None

Most Recent Inspection Date: August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required

Monitoring File: Not Applicable

Husky Pass - HP-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

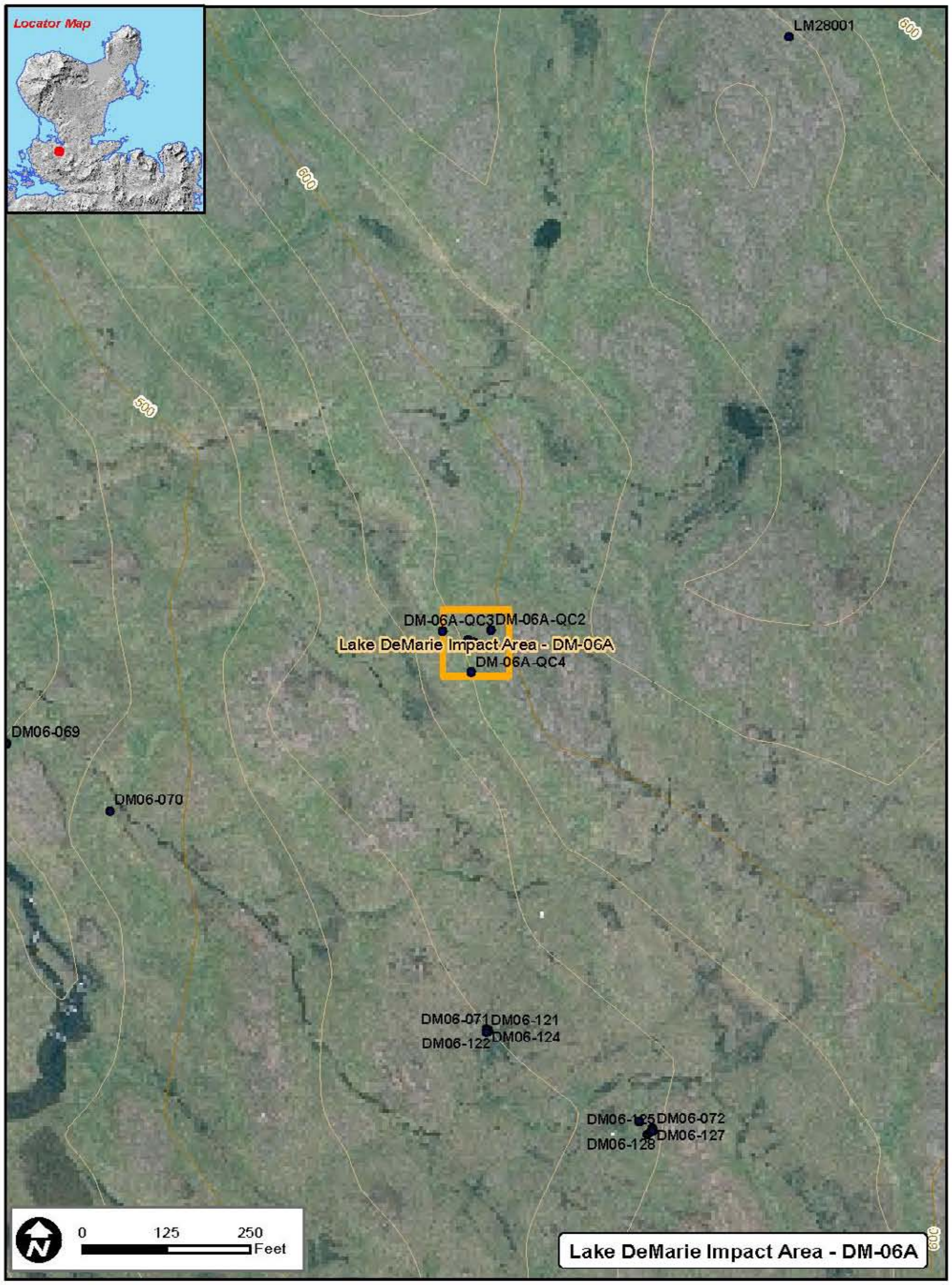
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 129

Lake DeMarie Impact Area - DM-06A **OU B-1**



Lake DeMarie Impact Area - DM-06A OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

The Lake DeMarie Impact Area is located west/southwest of downtown Adak near Shagak Bay. It is located within the boundaries of Combat Range #3, but was investigated separately. This sector is approximately 1,314 acres and has a variety of terrain and vegetation. The majority of the area's topography consists of rolling hills, lakes, and valleys, all sloping down to the north from the Mt. Reed range. The southern portion of the sector borders the mountain range and becomes extremely steep and impassable. The area includes two firing points, one near the southern tip of Andrew Lake and one near the north end of the NAF Adak/Lake De Marie Ammunition Complex.

DM-06A is a 30-meter by 30-meter square encompassing 0.2 acre within DM-06A. The terrain is relatively flat compared to other outback areas on Adak. There is no formal access to the area via either roadway or trail. This area was not investigated in 1999. Although it was part of the Lake Marie Impact Area sector in 1999, the random ribbon walk used for that investigation did not pass through the DM-06A area. During the RI in 2000, this area was investigated as part of a larger area using the prescribed search pattern for the 90-mm projectile impact area (DM-06) with search transects spaced at 50 meters. A single abandoned mortar was found at this site and is suspected to be a lone piece of ordnance unrelated to other activities in

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work in this site during 2001 was to confirm that the 60-mm mortar found during the 2000 investigation is a lone item. The remedial action technique used was a 100 percent survey of a 30-meter-square grid. Four anomalies were identified. Three of the four anomalies were no finds and the remaining anomaly was found to be MD (a 30-caliber casing). Therefore, no work was completed at DM-06A during the 2004 field activities, although it was included in the 2004 after action report. The ROD remedy was completed in 2001. In 2008, ADEC designated conditional closure with ICs for the site.

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

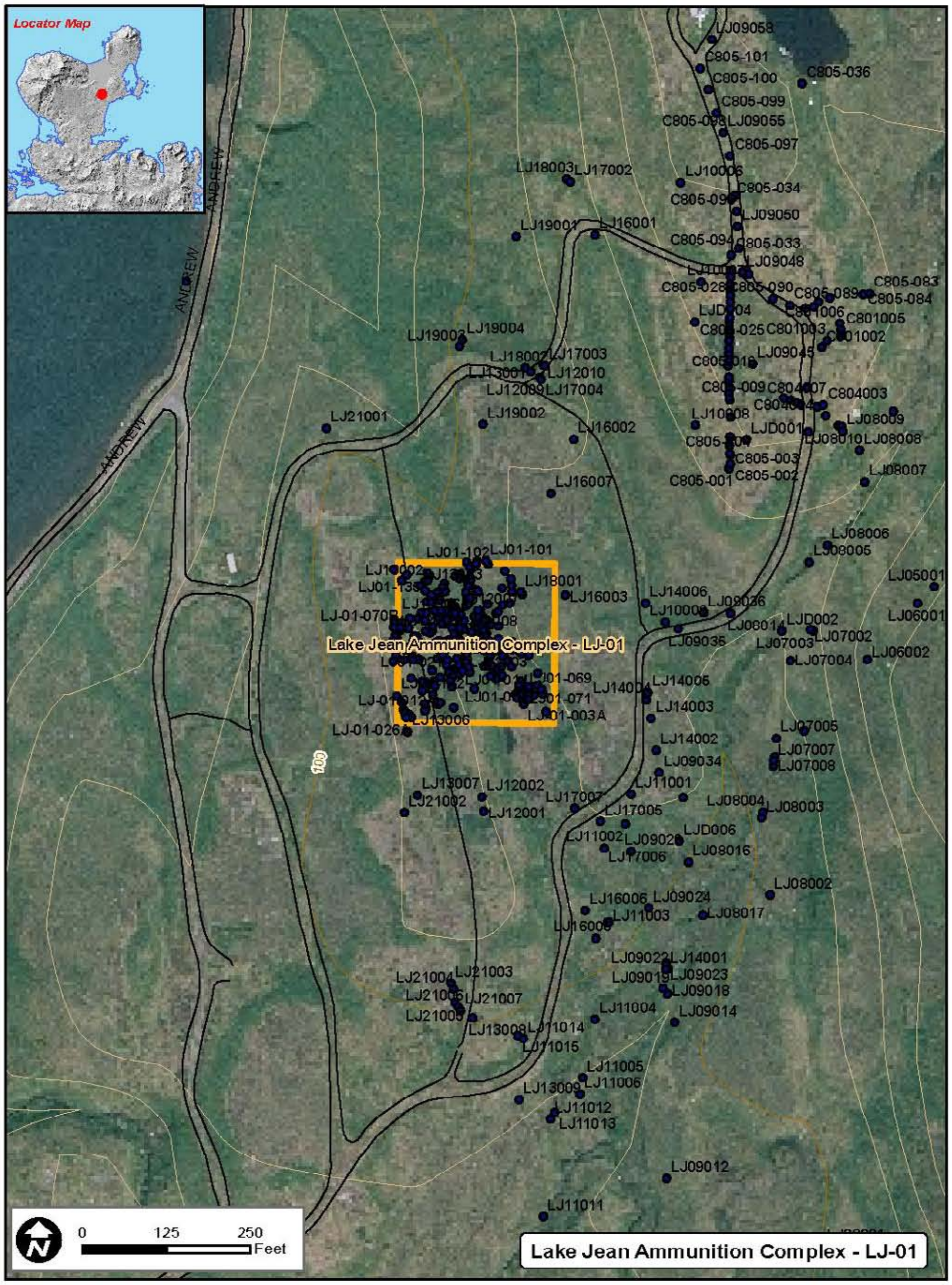
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 102, 106, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Lake Jean Ammunition Complex - LJ-01 OU B-1



Lake Jean Ammunition Complex - LJ-01 OU B-1

STATUS: Cleanup complete with ICs, closure pending EPA concurrence.

BACKGROUND:

This area is located north of downtown Adak along the eastern shoreline of Lake Jean. LJ-01 is a small 55- by 60-meter rectangular site encompassing approximately 0.8 acre. The terrain is relatively flat. There is access to the area via an improved roadway within 400 meters of the site. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through LJ-01 several times. DMM items (flares) were found at this site along with a single piece of UXO (a hand grenade). During the 2000 RI, this area was investigated a second time using the prescribed search pattern for a site containing lone ordnance finds (100 percent geophysical survey and intrusive investigation). Two hundred and five anomalies were identified and intrusively investigated. Twenty-one anomalies were identified as UXO, primarily MK2 hand grenades. Seventy-two anomalies were identified as DMM including such items as small arms ammunition, PD fuzes, 37-mm projectiles, 50-mm mortar rockets, flares, and practice ordnance. Several UXO and DMM items were located near the site boundaries. Because the area contained a large number of ordnance items near site boundaries, further investigation was required to delineate the site.

Lake Jean Ammunition Complex - LJ-01 OU B-1

COCs AND RISKS:

While not specified as COCs in the OU B-1 ROD, site risks addressed in the remedy include ordnance as well as TNT, tetryl, nitroglycerin, and nitroguanidine in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance and chemical sampling, removal, and on-site/off-site treatment and disposal of soils. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site in 2001 was to establish the final boundaries to the west and south of the site. The technique used was a 100 percent geophysical survey of the western and southern boundaries. One hundred and nineteen anomalies were investigated at this site. None of those anomalies investigated were UXO. However, 42 were DMM items. The boundary for this area was not expanded during this season, and therefore further investigation was warranted.

During the 2004 field season, LJ-01 was defined as three different UoPs. UoP 7 was the 2000 work area, UoP 7A was the 2001 work area, and UoP 9 was the 2004 work area where expansion grids were completed to ensure that all MEC items had a 15-meter ordnance-free buffer around them. During 2004 field work, an area with construction debris was identified and designated as an "exception area." This area was not completed during the 2004 field season because the equipment and time were not available to complete clearance. As work proceeded in 2004, problems were identified with the 2000 and 2001 field work. As a result, the geophysical anomalies identified during the 2000 and 2001 field work were re-investigated and additional ordnance was identified. However, this work could not be completed during the 2004 field season. During operations in 2004, a total of 69 anomalies were identified as ordnance-related items in the entire LJ-01 area (2000, 2001, and 2004). Six of these items were UXO, four were practice ordnance (MD), and the remaining 59 anomalies were classified as DMM.

Since work could not be completed in 2004, additional investigation and clearance was performed in 2008, when activities included investigating all anomalies to a depth of 4 feet below the mineral soil surface in accordance with the ROD, conducting intrusive investigations of the remaining anomalies identified in 2004, clearing the remaining construction debris in the exception area and investigating all geophysical anomalies in that area, performing a 100 percent geophysical survey of the entire UoP 7 and UoP 7A area, and intrusively investigating additional anomalies identified during that survey. In 2008, 48 MEC items were recovered. These MEC items consisted of DMM and material potentially presenting an explosive hazard. No MEC was encountered within the 15-meter buffer of the LJ-01 boundary, and therefore no step-outs were required.

The ROD remedy was completed during the 2008 field season and in September 2010 ADEC designated the site cleanup complete with ICs.

Four soil samples were submitted in 2001 for chemical analysis and reported ordnance-related chemical concentrations below detection limits. Therefore, no soil was removed from the site for treatment and/or disposal.

Lake Jean Ammunition Complex - LJ-01 | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date 2001 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Lake Jean Ammunition Complex - LJ-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

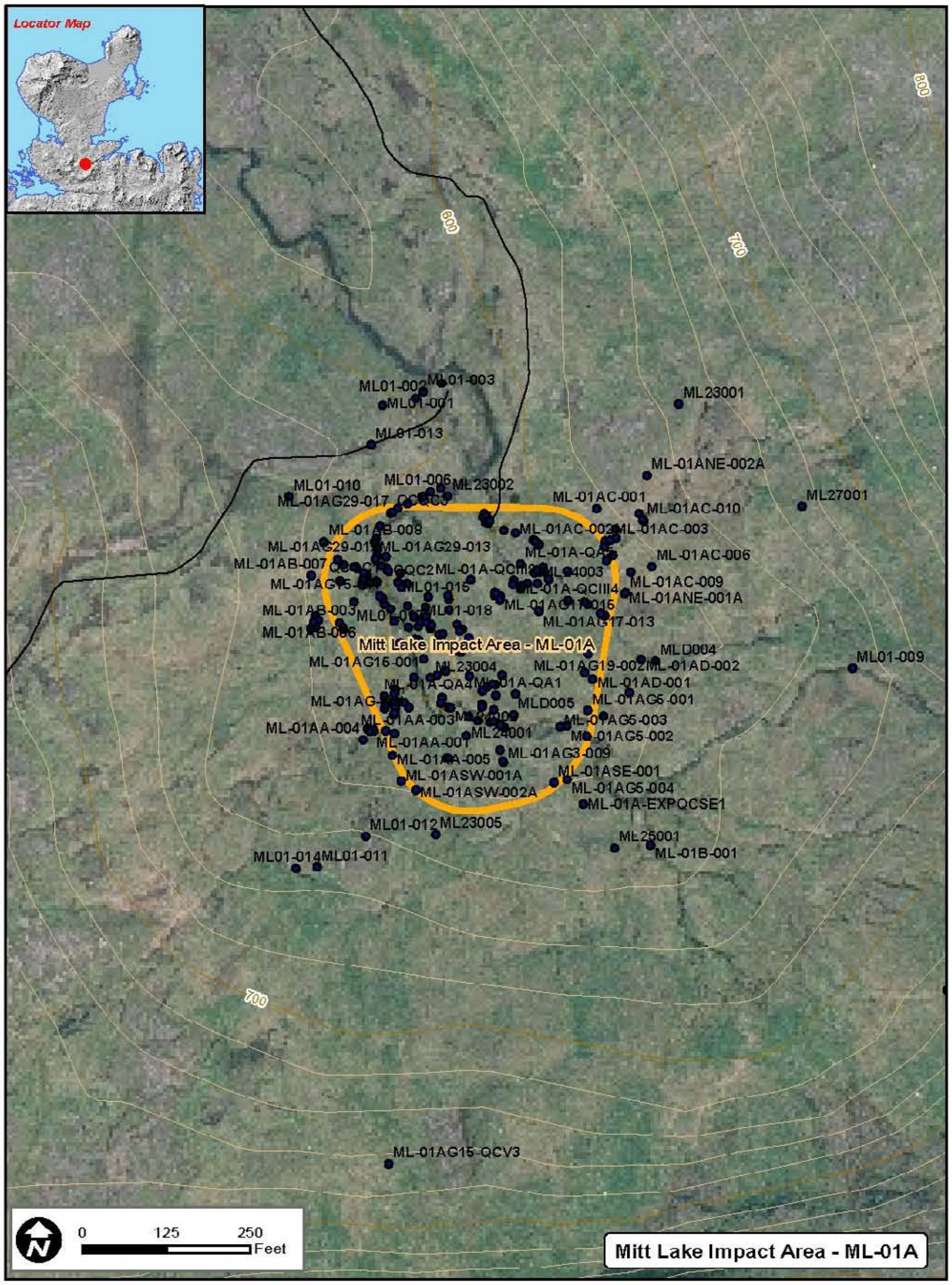
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 104, 105, 107, 129

Mitt Lake Impact Area - ML-01A OU B-1



Mitt Lake Impact Area - ML-01A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

The Mitt Lake Impact Area is located southwest of downtown Adak adjacent to the Naval Magazine sector. This sector is approximately 482 acres and has a variety of terrain and vegetation. The 60-mm Mortar Impact Area (ML-01) is located in the southeast corner of the Mitt Lake Impact Area. The terrain of ML-01 is characterized by steep rolling hills with rocky outcrops on the hilltops.

ML-01A is a portion of the 60-mm Mortar Impact Area encompassing 3.5 acres. The terrain in ML-01A varies, but is generally moderate in slope compared with other outback areas of Adak. There is no formal access to the area either by roadway or trail. This area was investigated in both 1999 and 2000. During the 1999 SI, this area was surveyed utilizing a random ribbon walk that passed through ML-01A numerous times. Several 60-mm mortars were found along with MD. During the RI in 2000, this area was investigated a second time using the prescribed search pattern for a 60-mm mortar impact area with search transects spaced at 34.5 meters. Eleven anomalies were identified and intrusively investigated. UXO and related MD were found. Six of the anomalies were identified as UXO. Four of the anomalies were identified as MD. The remaining anomaly was classified as metal waste.

Mitt Lake Impact Area - ML-01A OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is clearance to 4 feet bgs. Geophysical work was performed in 2001. The site boundaries were expanded to maintain a 15-meter buffer. One hundred and ninety-one anomalies were investigated at ML-01A, of which 18 were UXO items. The UXO items consisted of a single 20-mm HE projectile and 60-mm mortar rounds and fuzes. The 20-mm HE projectile is considered a ricochet from the ML-02 area. The ROD remedy was completed in 2001.

Ordnance-related chemicals were not reported above detection limits in the one soil sample collected in 2001. Therefore, no soil was removed from the site for treatment and/or disposal.

Mitt Lake Impact Area - ML-01A OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mitt Lake Impact Area - ML-01A OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. Ics appear to be functioning as intended.

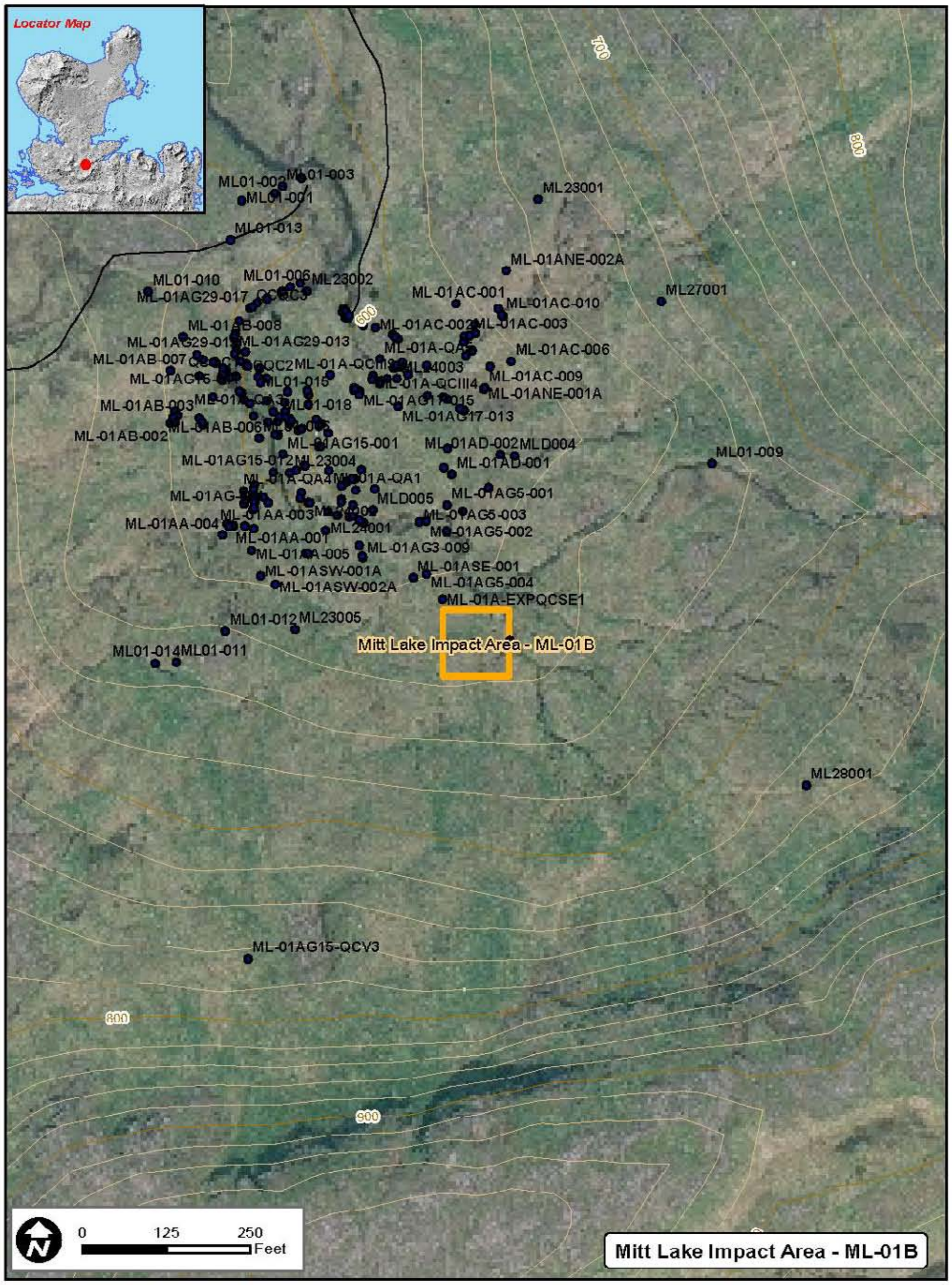
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 99, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mitt Lake Impact Area - ML-01B — OU B-1



Mitt Lake Impact Area - ML-01B OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

The Mitt Lake Impact Area is located southwest of downtown Adak adjacent to the Naval Magazine sector. This sector is approximately 482 acres and has a variety of terrain and vegetation. The 60-mm Mortar Impact Area (ML-01) is located in the southeast corner of the Mitt Lake Impact Area. The terrain of ML-01 is characterized by steep rolling hills with rocky outcrops on the hilltops.

ML-01B is a portion of the 60-mm Mortar Impact Area (ML-01) and encompasses 0.2 acre, with a 30-by-30-meter square screening area. The terrain in ML-01B is steep. There is no formal access to the area either by roadway or trail. This area was part of the Mitt Lake Impact Area investigated in 1999; however, this particular portion of that area was not investigated due to steep slopes. During the RI in 2000, this area was investigated using the prescribed search pattern for a 60-mm mortar impact area with search transects spaced at 34.5 meters. A single anomaly was identified and intrusively investigated. The anomaly was a single 60-mm mortar (UXO) suspected to be an isolated, lone item.

Mitt Lake Impact Area - ML-01B — OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to determine if the single 60-mm mortar found during the 2000 RI is a lone item. The technique used consisted of a geophysical survey of the 30-meter square grid with a 5-meter transect minigrid. One anomaly was investigated at this site and determined to be a no find. The ROD remedy was completed in 2001.

Mitt Lake Impact Area - ML-01B | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None
Most Recent Inspection Date: August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required
Monitoring File: Not Applicable

Mitt Lake Impact Area - ML-01B OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning more effectively among children than adults. Inconsistent showing of the ordnance awareness video at the Adak Island airport may be a contributing factor.

In 2010, an inspection of slopes greater than 30 degrees was performed to support the five-year review. ICs appear to be functioning as intended.

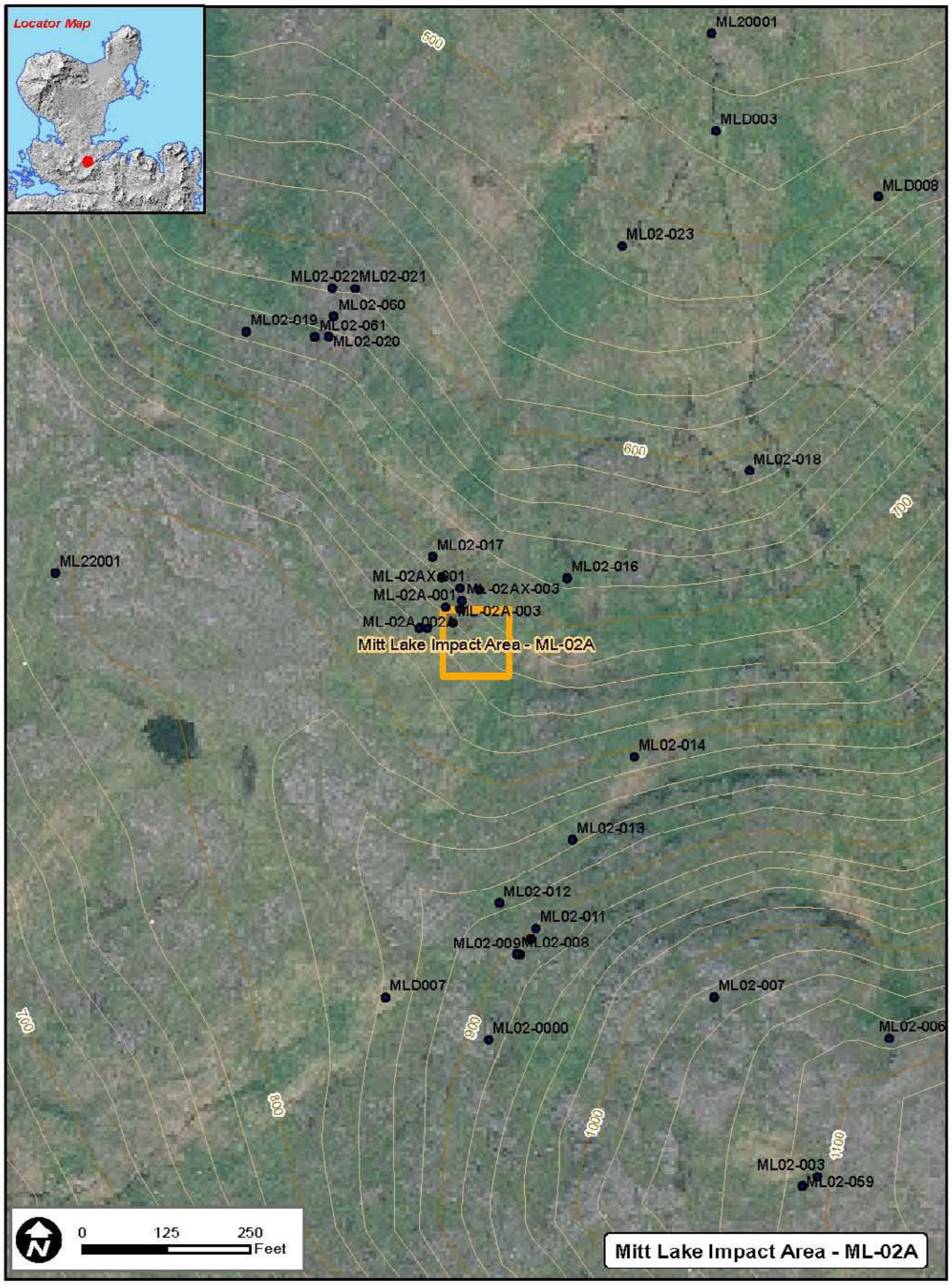
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mitt Lake Impact Area - ML-02A OU B-1



Mitt Lake Impact Area - ML-02A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

The Mitt Lake Impact Area is located southwest of downtown Adak adjacent to the Naval Magazine sector. This sector is approximately 482 acres and has a variety of terrain and vegetation. The 20/40-mm Impact Area (ML-02) is located centrally about 4,500 feet south of the historical firing point for the Mitt Lake Impact Area. The ML-02 area terrain is characterized by steep ridges and deep ravines.

ML-02A, the Single 20-mm Projectile Site, is a portion of the 20/40-mm Impact Area (ML-02), encompassing 0.2 acre and a 30-by-30-meter-square screening area. The terrain in ML-02A is steep and the vegetation is thick and lush, predominantly made up of grass species. There is access to the area via an improved roadway within 400 meters of the site. This area was not investigated in 1999 due to the steep slopes present. During the RI in 2000, this area was investigated in accessible locations using the prescribed search pattern for a 20-mm impact area with search transects spaced at 20 meters. A single anomaly was identified and intrusively investigated in this area. The anomaly was identified as a single 20-mm projectile, which is suspected to be a lone item.

Mitt Lake Impact Area - ML-02A — OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to determine if the 20-mm projectile found during the 2000 investigation is a lone item. The technique used was a geophysical survey of a 30-meter square grid with a 5-meter transect minigrid centered at the location of the 20-mm projectile. The boundary for this area was expanded both north and west during the 2001 field activities. There were nine anomalies investigated at this site. Three UXO items were found and all consisted of 20-mm HE projectiles located at depths less than 1 foot bgs. The ROD remedy was completed in 2001.

Mitt Lake Impact Area - ML-02A OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mitt Lake Impact Area - ML-02A OU B-1

SUMMARY OF INSPECTION RESULTS:

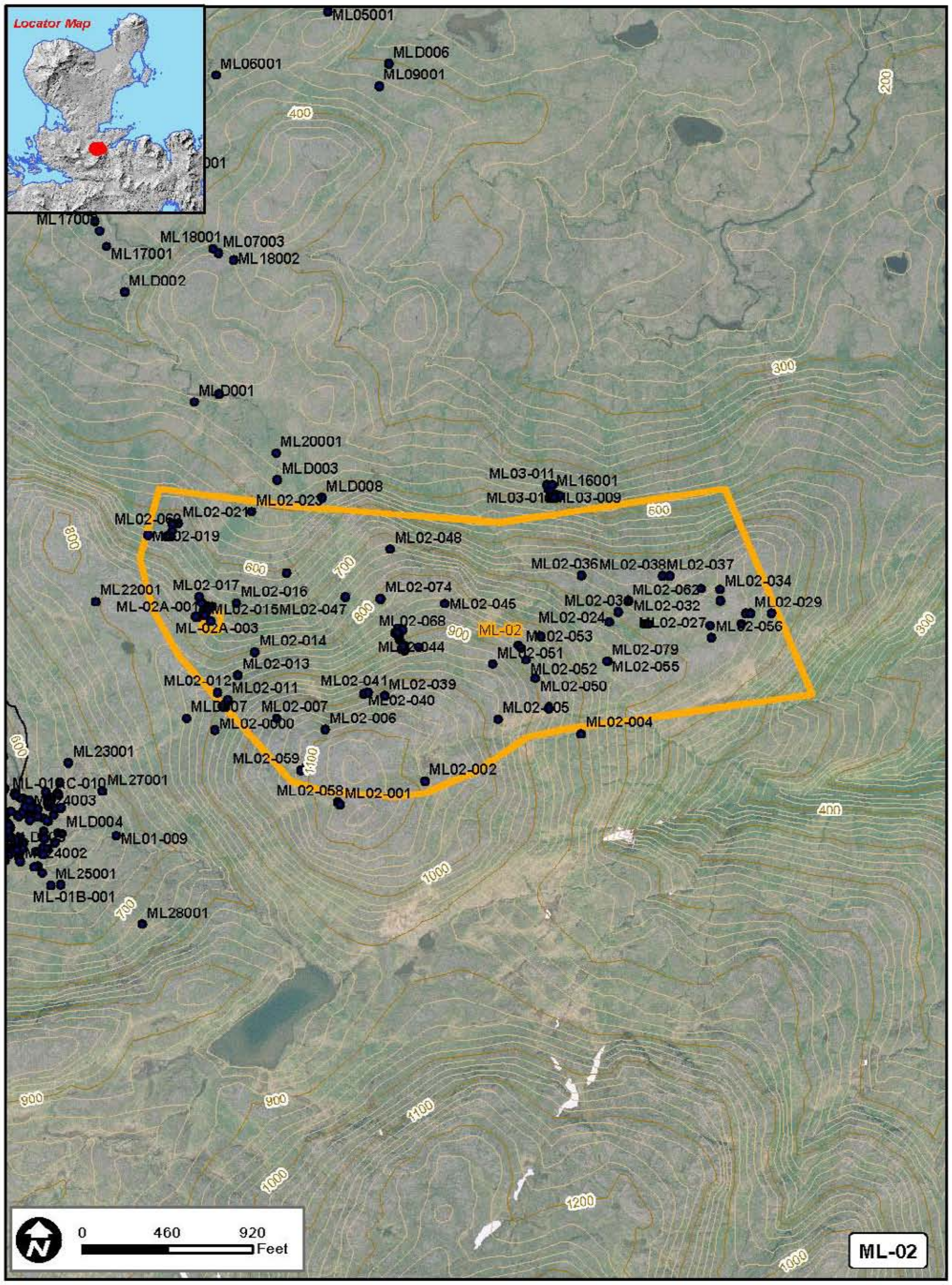
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 107, 129

Mitt Lake Impact Area - ML-02B OU B-1



Mitt Lake Impact Area - ML-02B OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

The Mitt Lake Impact Area is located southwest of downtown Adak adjacent to the Naval Magazine sector. This sector is approximately 482 acres and has a variety of terrain and vegetation.

The 20/40-mm Impact Area (ML-02) is located centrally about 4,500 feet south of the historical firing point for the Mitt Lake Impact Area. The ML-02 area terrain is characterized by steep ridges and deep ravines.

ML-02B is the remainder area of ML-02 after removal of the lone 20-mm projectile site (ML-02A). It is an irregularly shaped area on the lower flanks of a ridgeline facing the Mitt Lake Firing Points to the north. The area encompasses approximately 100 acres with steep to inaccessible terrain. There is access to the area via an improved roadway within 400 meters of the site. This area was not investigated in 1999 due to the steep slopes. During the RI in 2000, ML-02 (including both ML-02A and ML-02B) was investigated in accessible locations using the prescribed search pattern for a 20-mm impact area with search transects spaced at 20 meters. Eighty-two anomalies were identified and intrusively investigated. UXO was found, along with related MD. Six anomalies were identified as UXO (20-mm projectiles). Seventeen anomalies were identified as MD. The remaining anomalies were classified as metal waste, no finds, or they were below the 4-foot excavation limit for intrusive investigation. The prescribed bound and characterize methodology for lone items of UXO was applied to all but one of the 20-mm finds to determine whether they were lone items or part of an impact area with significant densities of UXO. The lone 20-mm projectile site that was not investigated using the bound and characterize methodology was designated ML-02A. The area that was fully characterized was designated as ML-02B. The RI concluded that all UXO was removed from ML-02B in 2000, and no UXO remained at the site. However, chemical sampling was to be performed at the site.

Mitt Lake Impact Area - ML-02B OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance, as well as tetryl and TNT in soil.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soils above the cleanup levels. The cleanup levels established in the ROD are the EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy includes chemical sampling, removal and on-site/off-site treatment and disposal of soils. Ordnance-related chemicals were not reported above detection limits in the two soil samples collected in 2001. Therefore, no soil was removed from the site for treatment and/or disposal. The ROD remedy was completed in 2001.

Mitt Lake Impact Area - ML-02B — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date 2001 **Most Recent Inspection Date:** August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required **Monitoring File:** Not Applicable

Mitt Lake Impact Area - ML-02B OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

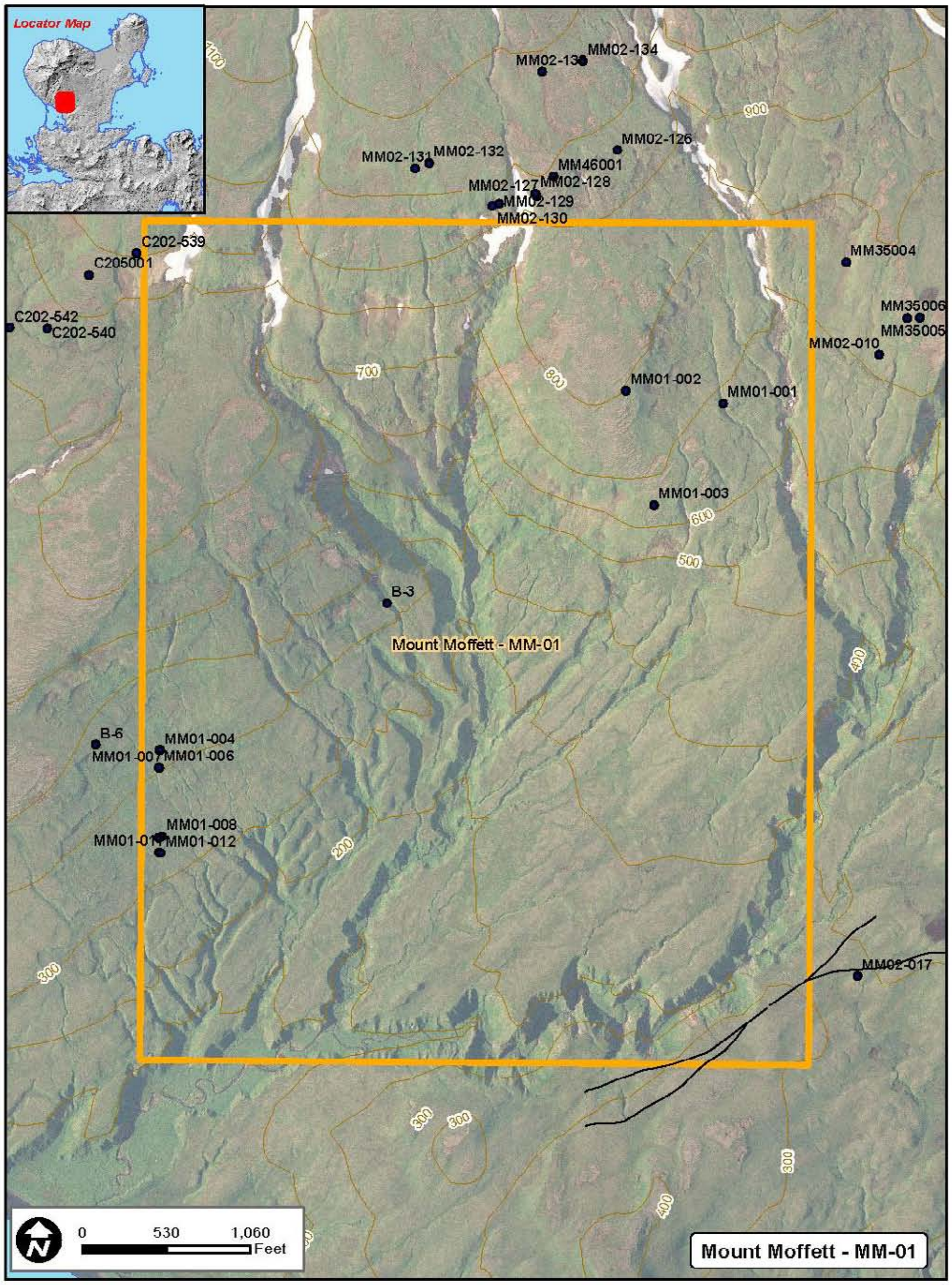
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 102, 107, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-01	OU B-1



Mount Moffett - MM-01 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This site is located near the base of Mt. Moffett just northeast of Shagak Bay. It is identified as an impact area for 155-mm projectiles fired from the Andrew Bay seawall and as a portion of a potential impact area for direct fire weapons ranges along the southeastern flanks of Mt. Moffett. MM-01 is 513 acres in size. The terrain in MM-01 is steep on both the east and west sides, descending sharply to a large stream channel centrally located at the site. During the 1999 field investigation, no ordnance or MD was found in this area. However, little field data was collected in the area due to the steep terrain.

Mount Moffett - MM-01 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Prior to the 2004 field season, historical field activities performed at this site were investigated. This investigation found that the required 115-meter transects had been collected over this site and no UXO, DMM, or MD items had been found during the intrusive investigation. Based on this, no further investigation activities were performed in 2004 and NFA status was recommended for MM-01. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-01 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

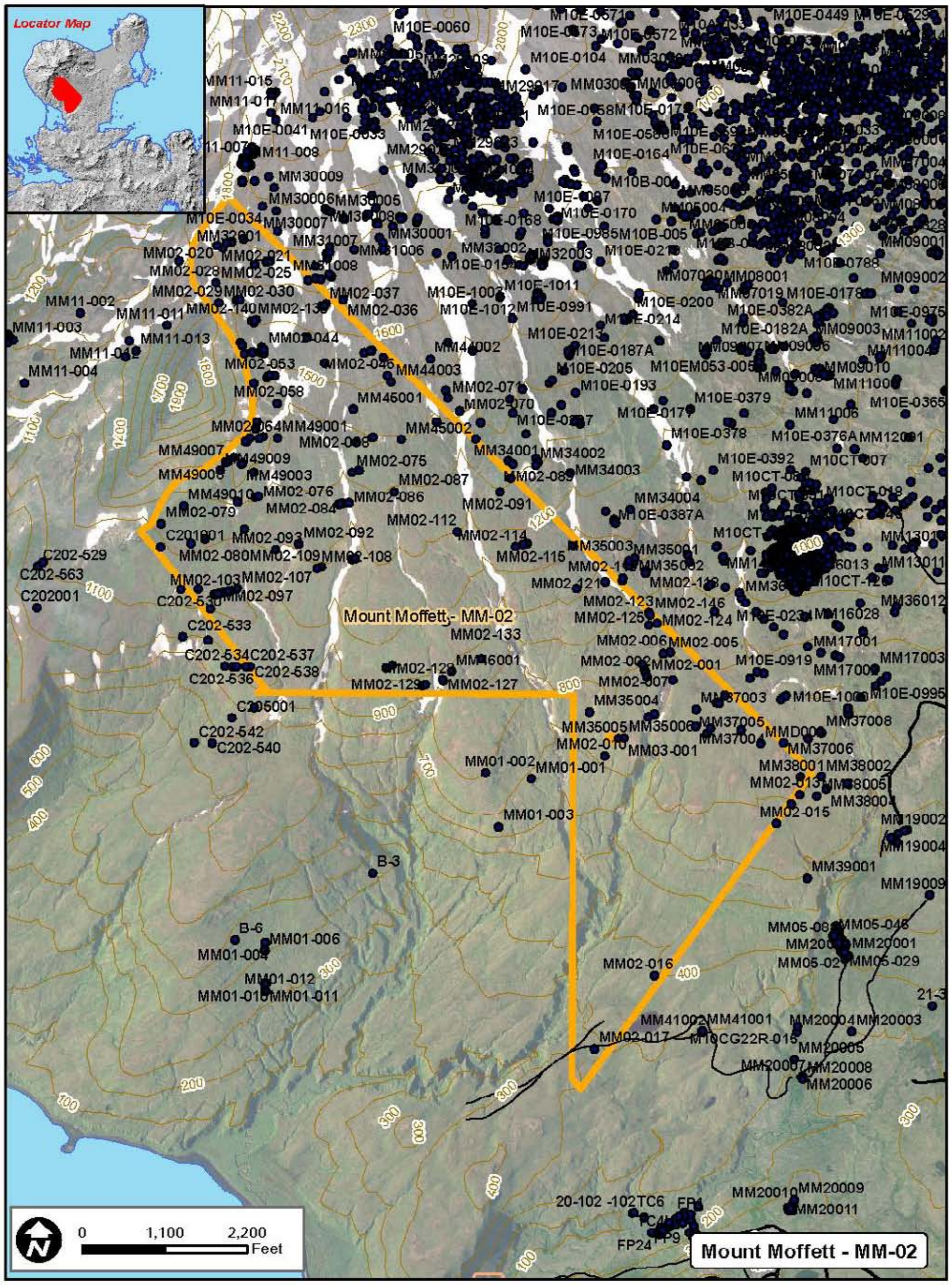
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Mount Moffett - MM-02 OU B-1



Mount Moffett - MM-02 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This area is located southeast of the peak of the mountain adjacent to the 155-mm impact area (MM-01). The area is identified in historical firing orders as part of two impact areas; however, the area is located near the outer limits of these impact areas. MM-02 is 776 acres in size. The terrain is steep. There are three deep stream ravines and a small lake within the boundaries of the site. Access to MM-02 is available by parking at the ski lodge and using an ARGO all-terrain vehicle to access the site. During pre-ROD field investigations, ordnance-related items were found at the site including one bullet-related item and eight MD items.

Mount Moffett - MM-02 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC and to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to gather geophysical data surrounding the eight MD items located during previous field seasons. All of the geophysical mapping was performed using 30-meter by 30-meter mini-grids with 5-meter line spacing. Several addition pieces of fragmentation were recovered during the intrusive investigation that caused additional "step outs" during the 2004 field season. Intrusive investigation produced 18 pieces of fragmentation. The rest of the anomalies were no finds or hot geology. No UXO, DMM, or other items of concern were found at this site during the 2004 field season. The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-02 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-02 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

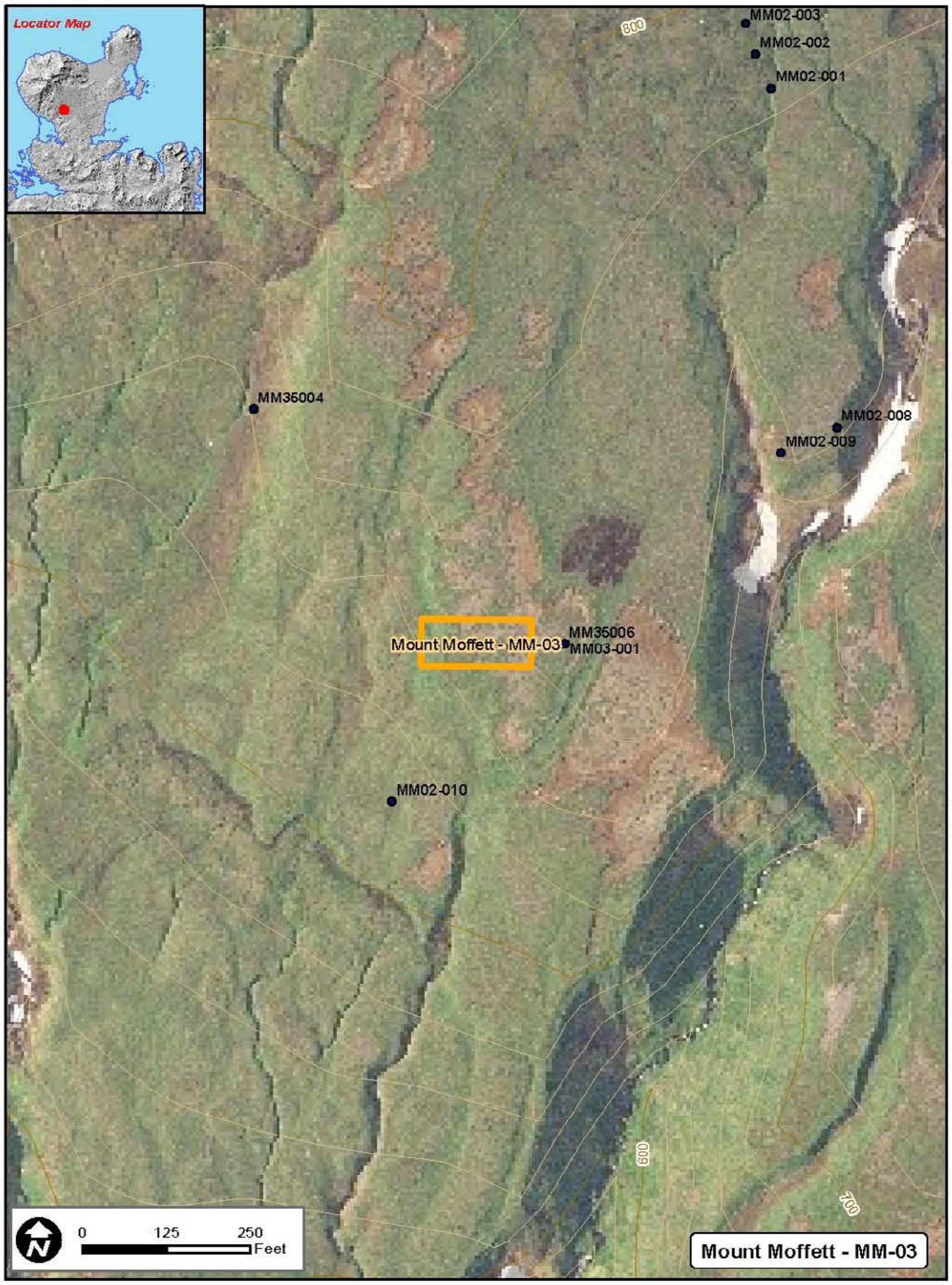
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-03 OU B-1



Mount Moffett - MM-03 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This small area encompasses a single metallic fragment found in the southeast of Mount Moffett near MM-01. MM-03 is 0.42 acre in size, and the terrain in this area is steep. Access to MM-02 is available by parking at the "ski lodge" and using an ARGO all-terrain vehicle to access the site. Two pieces of fragmentation were discovered from transect data collected in MM-03 during the 1999 field season.

Mount Moffett - MM-03 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to gather geophysical data surrounding the two MD items located during previous field seasons. These items were close enough together that one 60-meter by 30-meter mini-grid was collected over both items with 5-meter line spacing. After this mapping was completed, details emerged indicating that this area had been 100 percent geophysically mapped during the 2000 field season. A small expansion was performed in 2004 to complete the 15-meter MEC-free buffer around the fragmentation items. Only one anomaly was targeted and it was a no find. No UXO, DMM, or other items of concern were found at this site during the 2004 field season. The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-03 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-03 OU B-1

SUMMARY OF INSPECTION RESULTS:

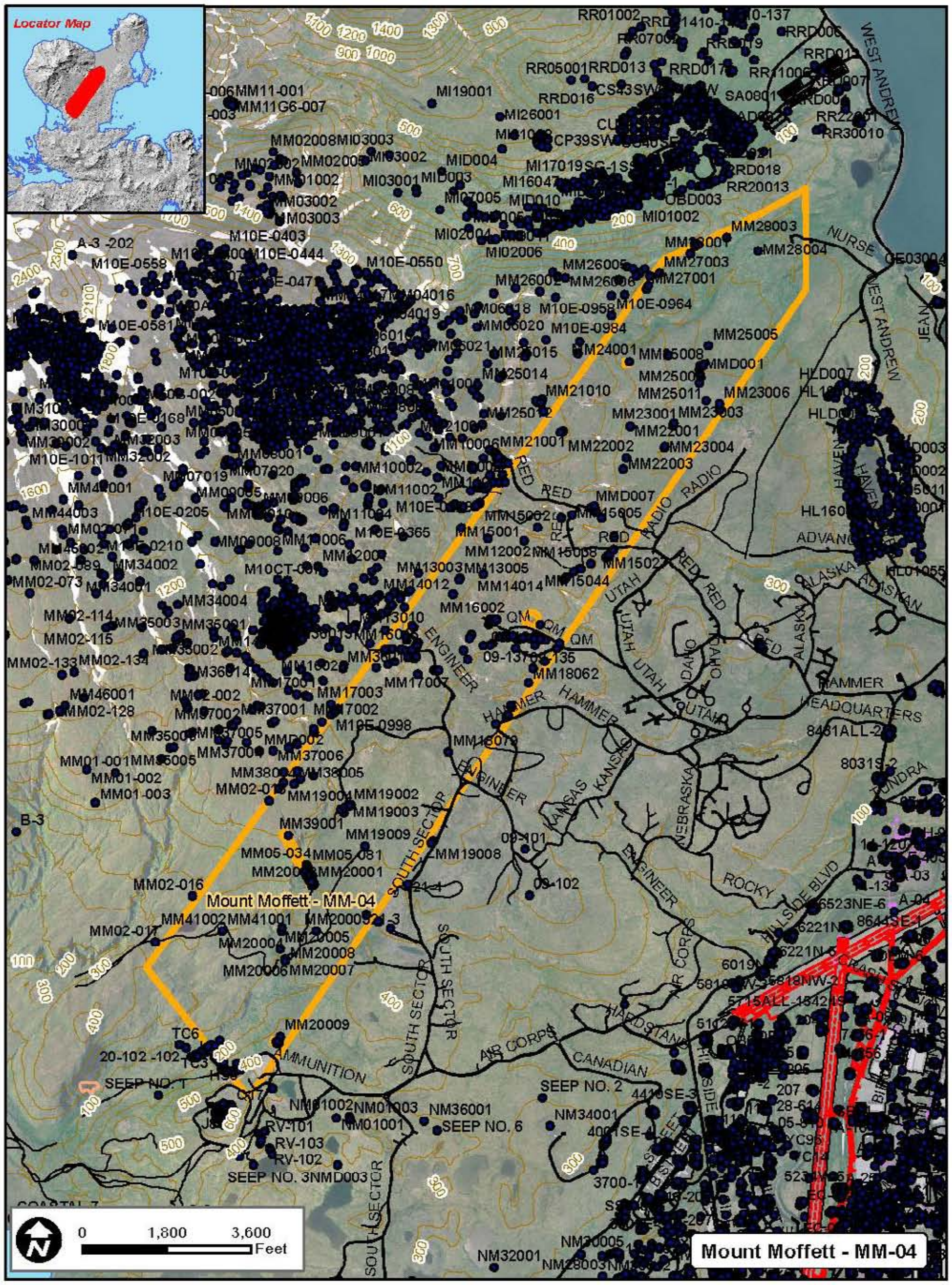
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Mount Moffett - MM-04 OU B-1



Mount Moffett - MM-04 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This area is located along the southeastern flanks of Mt. Moffett and includes the firing points for five direct and indirect fire weapons ranges in this area. MM-04 is 1,488 acres in size. The terrain in this area is characterized by gently rolling hills and ravines. The extensive road network in this area, the relatively high use documented in historical photographs, and the amount of development in modern times suggests that this area was not an impact zone. However, MM-23 resides within the boundary of MM-04. MM-23 is located approximately 250 meters east of MM-05. MM-23 was established on the basis of archival records, which indicated that the site was an experimental firing location for a 4.2-inch chemical mortar. During the 1999 field investigation, no ordnance or OE scrap was found in this area.

Mount Moffett - MM-04 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Prior to the 2004 field season, geophysical surveys and intrusive investigations were conducted adjacent to the location of MM-23, which is part of MM-04. During these efforts, no evidence of past use of this area as a mortar firing position was discovered. Based on this, no further investigation activities were performed in 2004 and NFA status was recommended for MM-04. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-04 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-04 OU B-1

SUMMARY OF INSPECTION RESULTS:

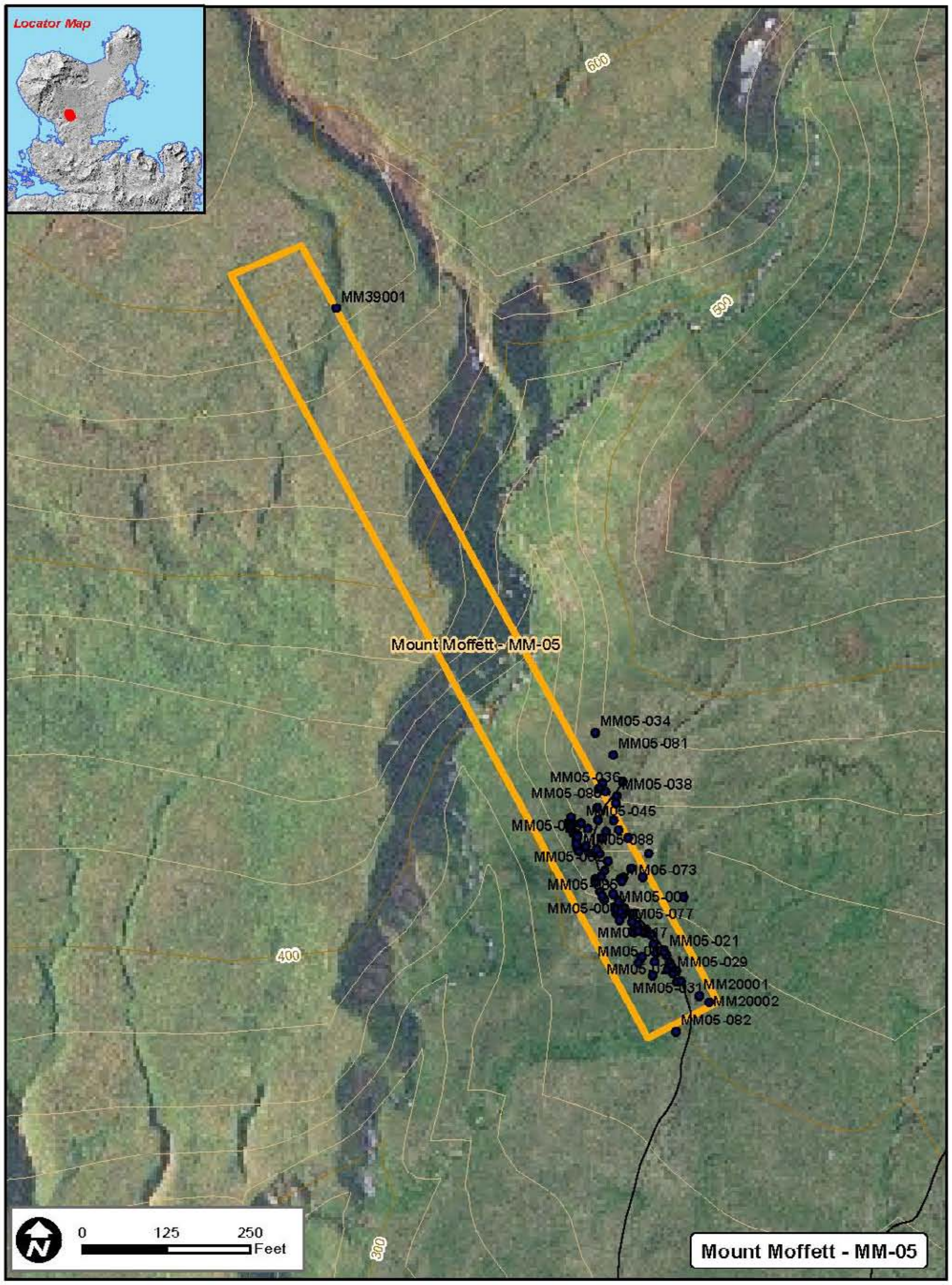
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Mount Moffett - MM-05 | OU B-1



Mount Moffett - MM-05 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This small area encompasses two metallic fragments found in the southern portion of MM-04. MM-05 is 3.42 acres in size. The terrain in this area slopes gently toward the crest of Mt. Moffett, which lies more than 1 mile to the north. This area was investigated in 1999 as part of MM-04. During this investigation, seven ordnance-related items were found inside its boundaries. The area surrounding two of these ordnance-related items was designated MM-05. These two anomalies were a piece of fragmentation located in the northern part of MM-05 and a 30-06 bullet located in the southern part of the site.

Mount Moffett - MM-05 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to gather geophysical data surrounding the one MD item (fragmentation) located during the 1999 investigation. A 30-meter by 30-meter mini-grid with 5-meter line spacing was conducted over the fragmentation. After this mapping was completed, details emerged indicating that this area had been 100 percent geophysically mapped during the 2000 field season. A small expansion was performed in 2004 to complete the 15-meter MEC-free buffer around the fragmentation item. One anomaly was targeted and resulted in a no find. No UXO, DMM, or other items of concern were found at this site during the 2004 field season. The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-05 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-05 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

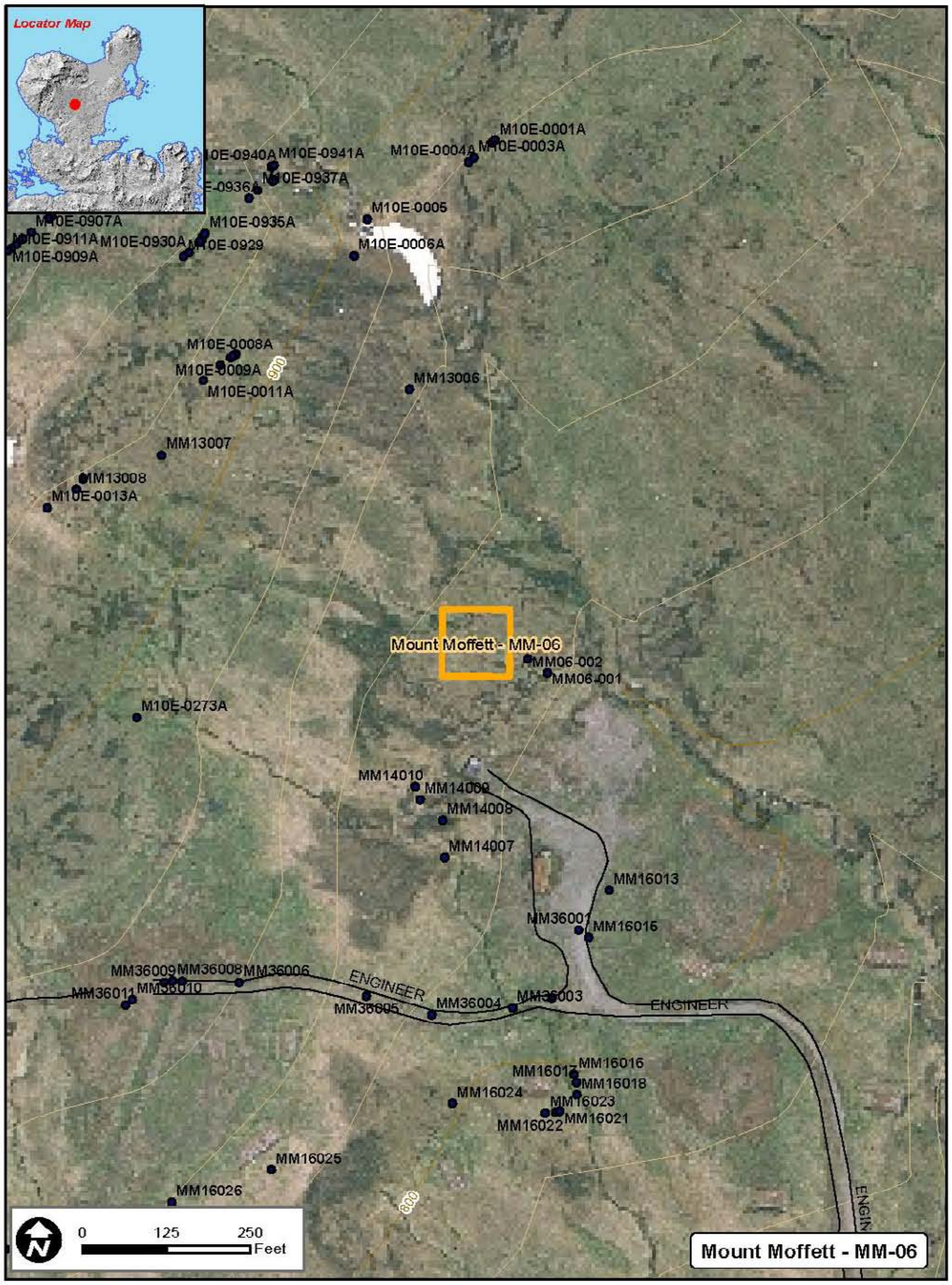
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-06 OU B-1



Mount Moffett - MM-06 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This small area encompasses a single piece of fragment found in the southeastern portion of MM-04. MM-06 is 0.22 acre in size. The terrain in this area slopes gently toward the crest of Mt. Moffett, which lies more than 1 mile to the north. This site is located at the "ski lodge" and is easily accessible by vehicle. This area was investigated in 1999 as part of MM-04. During this investigation, seven ordnance-related items were found inside its boundaries. The area surrounding one of these ordnance-related items was designated MM-06. This site is located in between the general location given for the mortar and artillery firing points. During the 1999 field investigation, a single piece of fragment was found. It was not possible to discern the type of projectile from which the fragment originated.

Mount Moffett - MM-06 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to gather geophysical data surrounding the one MD item (fragmentation) located during the 1999 investigation. A 30-meter by 30-meter mini-grid with 5-meter line spacing was conducted over the fragmentation. After this mapping was completed, details emerged indicating that this area had been 100 percent geophysically mapped during the 2000 field season. Eleven anomalies were targeted by the geophysical operations, producing four pieces of metallic waste and one no find. The other six digs were abandoned due to water and were later confirmed by QC to be related to a pipeline running through the grid. No UXO, DMM, or other items of concern were found at this site during the 2004 field season. The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-06 | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-06 OU B-1

SUMMARY OF INSPECTION RESULTS:

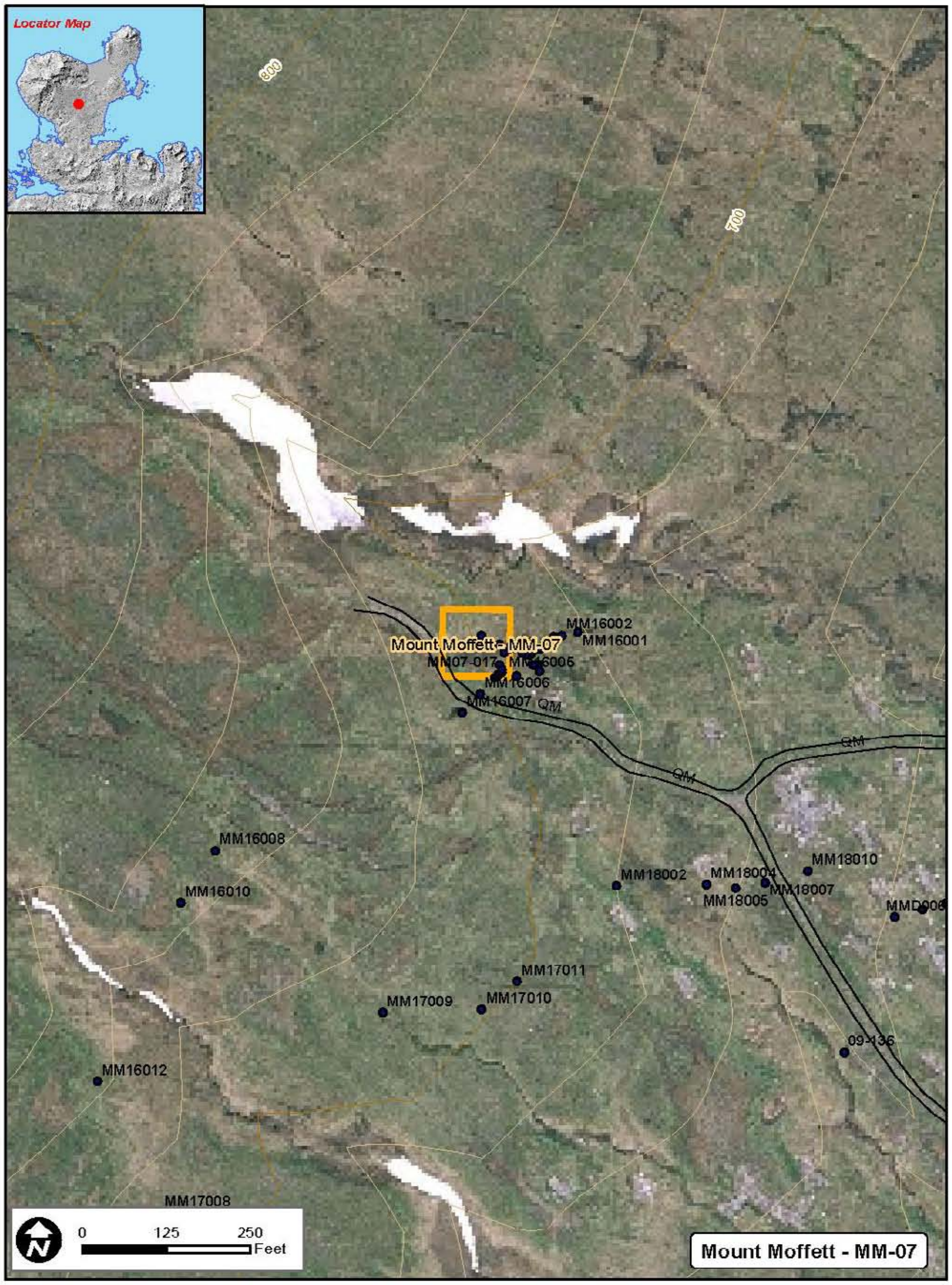
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Mount Moffett - MM-07 OU B-1



Mount Moffett - MM-07 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This small area encompasses a single find consisting of an M-46 fuze in the central part of MM-04. MM-07 is 0.22 acre in size. The terrain in this area slopes gently toward the crest of Mt. Moffett, which lies more than 1 mile to the northwest. This area was investigated in 1999 as part of MM-04. During this investigation, seven ordnance-related items were found inside its boundaries. The area surrounding one of these ordnance-related items, an M-46 fuze, was designated MM-07. The live M-46 projectile fuze was found at the bottom of a trash pit excavation at a depth of 48 inches bgs. In 2000, a 100 percent geophysical survey was performed over the 0.22-acre area; however, the area was never 100 percent remediated due to the amount of trash and construction debris present. Based on the results of this limited investigation, coupled with the information gathered during the 1999 field season, MM-07 was not believed to present an ordnance or hazardous waste threat to the public and is simply the remains of some sort of wooden structure and its contents.

Mount Moffett - MM-07 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC and to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. A detector-aided reconnaissance of the area was conducted in 2004. Twenty-seven anomalies were investigated by the UXO team, producing 17 pieces of metallic waste and six bullet-related anomalies. Further investigation of the previously-collected geophysical data showed that a rather large linear anomaly to the southeast of the grid was never intrusively investigated. The anomaly was targeted with four points and intrusively investigated by a UXO team. The intrusive investigation yielded two metal waste items found to be approximately 4 feet away from the given anomaly location and two no finds. This linear item was most likely a pipe on the surface that was removed during the initial 1999 investigation. No UXO, DMM, or other items of concern were found at this site during the 2004 field season. The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-07 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-07 OU B-1

SUMMARY OF INSPECTION RESULTS:

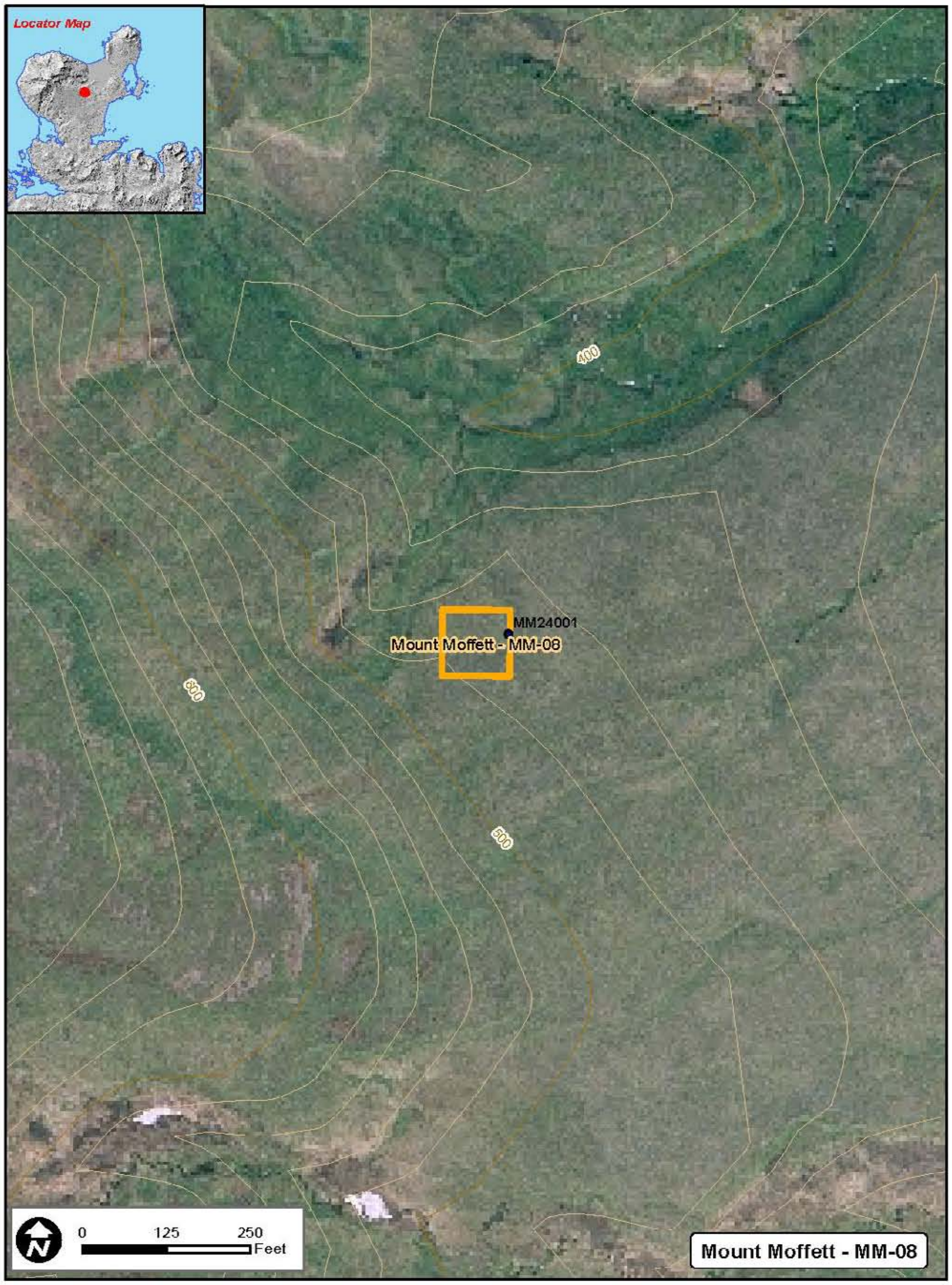
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Mount Moffett - MM-08 OU B-1



Mount Moffett - MM-08 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This small area encompasses a single metallic fragment found in the northeastern part of MM-04. MM-08 is 0.22 acre in size. The terrain in this area slopes gently toward the crest of Mt. Moffett, which lies more than 1 mile to the west. This area was investigated in 1999 as part of MM-04. During this investigation, seven ordnance-related items were found inside its boundaries. The area surrounding one of these ordnance-related items was designated MM-08.

Mount Moffett - MM-08 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to gather geophysical data surrounding the one MD item (fragmentation) located during the 1999 investigation. A 30-meter by 30-meter mini-grid with 5-meter line spacing was conducted over the fragmentation. No anomalies were identified and as a result no intrusive investigation was performed by the UXO teams. The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-08 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-08 OU B-1

SUMMARY OF INSPECTION RESULTS:

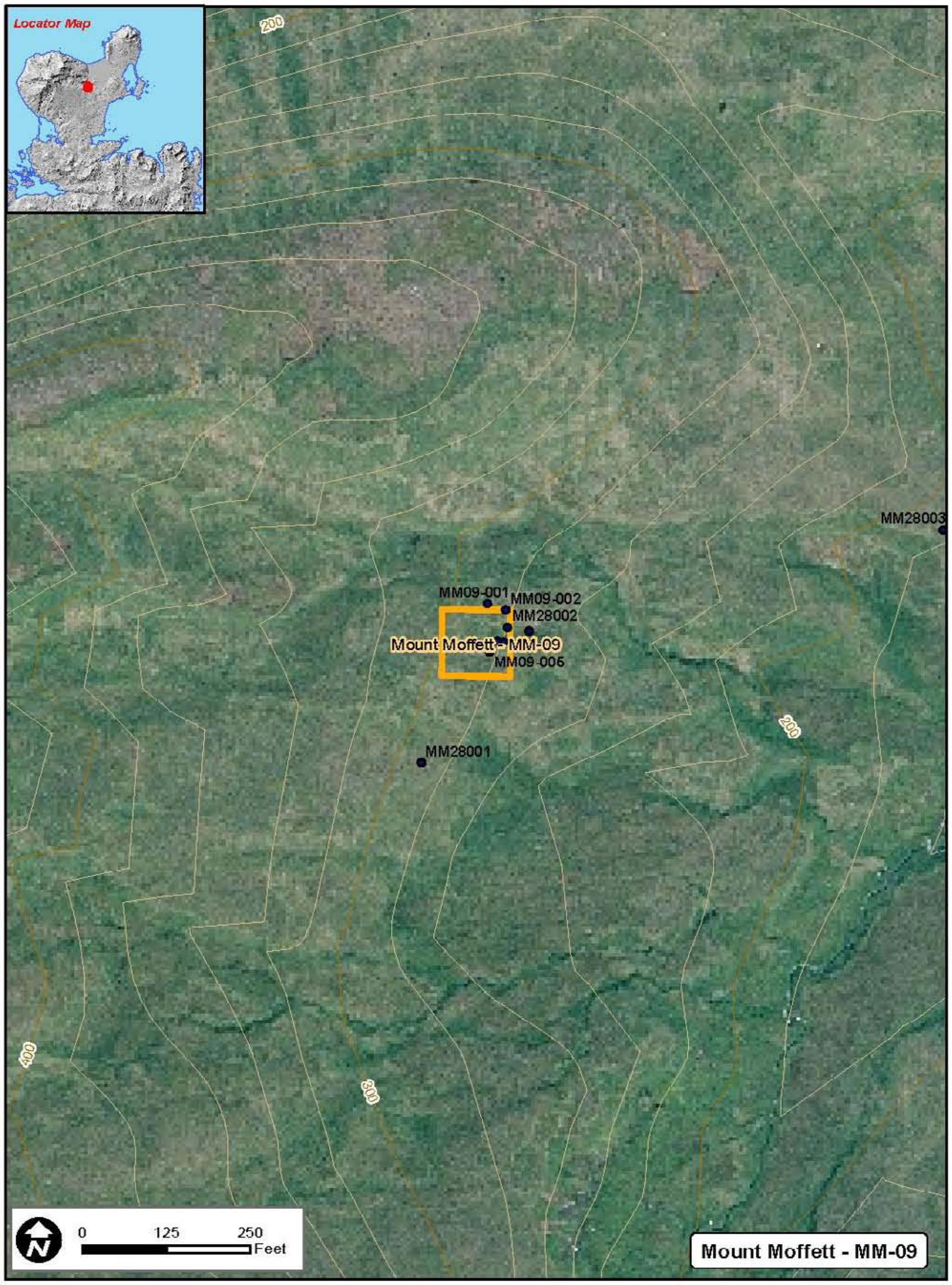
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Mount Moffett - MM-09 OU B-1



Mount Moffett - MM-09 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This small area encompasses a single metallic fragment found in the northeastern part of MM-04. MM-09 is 0.85 acre in size. The terrain in this area is steep, sloping up to a ridgeline separating the Andrew Lake Range Complex from MM-04. This area was investigated in 1999 as part of MM-04. During this investigation, seven ordnance-related items were found inside its boundaries. The area surrounding one of these ordnance-related items was designated MM-09.

Mount Moffett - MM-09 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of work at this site was to gather geophysical data surrounding the one MD item (fragmentation) located during the 1999 investigation. A 30-meter by 30-meter mini-grid with 5-meter line spacing was conducted over the fragmentation. During the investigation at MM-09, two additional pieces of fragmentation and one piece of small arms debris were identified. These were located within the 30-meter by 30-meter mini-grid, and an expansion of the investigation area was not required. Seven anomalies were targeted during geophysical operations, producing three pieces of fragmentation, one piece of metallic waste, and three no finds. No UXO, DMM, or other items of concern were found at this site during the 2004 field season. The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Mount Moffett - MM-09 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None
Most Recent Inspection Date: August 2010
Current Media Sampled None
Current Analytes Sampled None
Current Monitoring None Required
Monitoring File: Not Applicable

Mount Moffett - MM-09 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

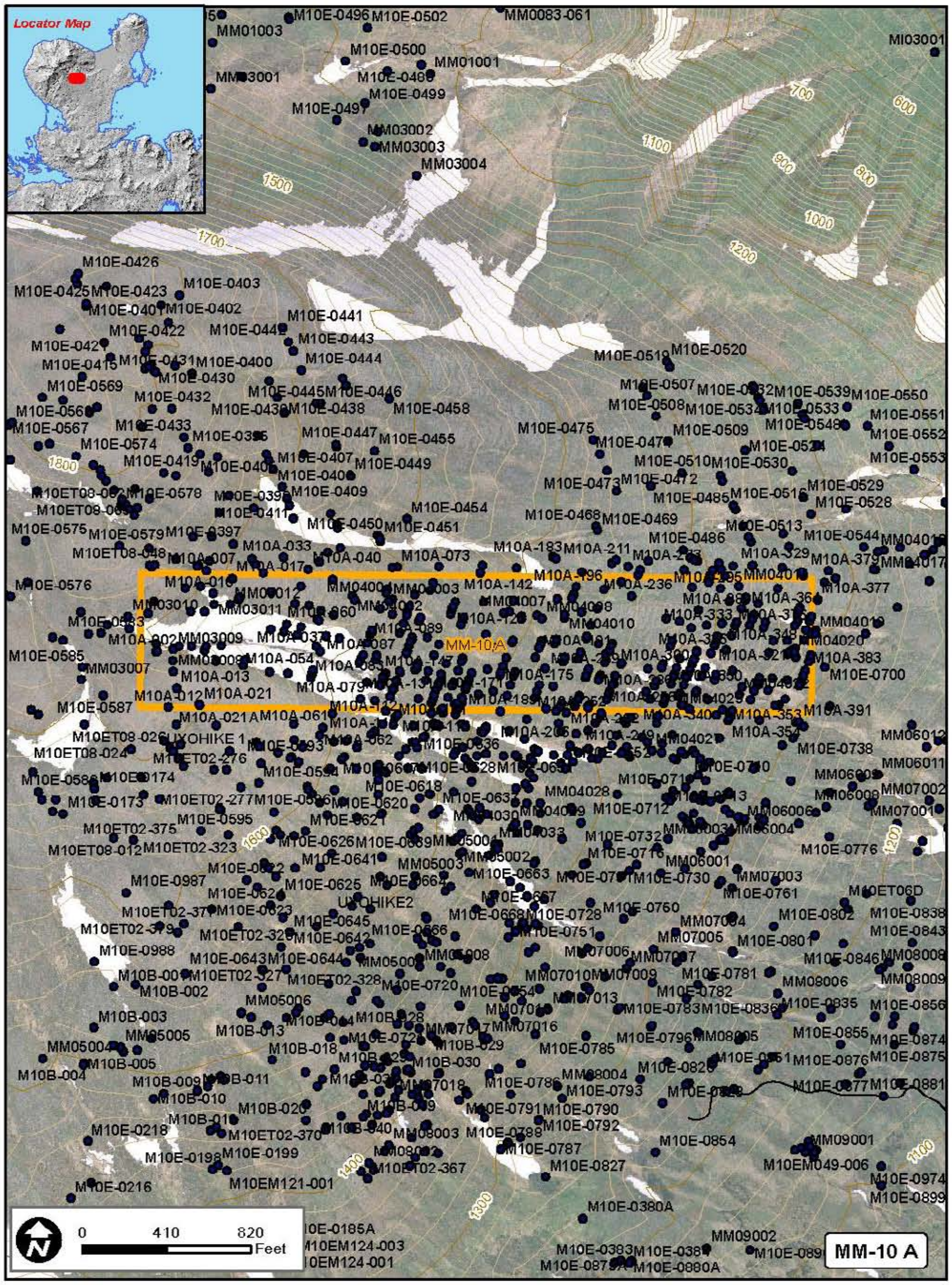
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 106, 118, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10A **OU B-1**



Mount Moffett - MM-10A OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

This site is in a bowl-shaped area near the upper flanks of Mt. Moffett on the front (southeast) side. It is located within a large area generally identified as an impact area for 90-mm and 155-mm projectiles fired from six separate locations on the northern end of Adak Island. Several types of ordnance and MD were discovered in this overall area on Mt. Moffett, and it appears that the front face on the mountain was heavily used as an impact zone. Surrounding areas contained scrap or other ordnance-related items indicative of projectiles of various sizes, including 75-mm and 90-mm projectiles, as well as a fragment from a 155-mm projectile. Mortars were found at lower elevations together with PD 557 fuzes, which are commonly used on large-caliber projectiles.

MM-10A is a small area within MM-10E, with steep terrain descending sharply to rolling hills along the southeastern flanks of Mt. Moffett. There is access to the area only by ARGO all-terrain vehicle or helicopter. During the 1999 investigation, a 37-mm projectile (fired) and MD related to 37-mm projectiles were found in MM-10A.

Mount Moffett - MM-10A OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. Potential explosive-related chemical risks to ecological receptors were also investigated.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soil above the cleanup levels. The cleanup levels established in the ROD are based on EPA Region 9 PRGs for residential soil. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. The remedy for this site was implemented in conjunction with MM-10E in 2002, 2004, and 2008. Refer to the site catalog entry for MM-10E for details of remedial actions implemented at MM-10E (as well as MM-10A and MM-10B). The ROD remedy was completed in 2008. However, ADEC and EPA have not concurred with the remedial actions.

Three soil samples were collected in 2001. No results exceeded cleanup levels for ordnance-related chemicals established in the OU B-1 ROD. Therefore, no soil was removed from the site for treatment and/or disposal.

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10A — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None — **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required — **Monitoring File:** Not Applicable

Mount Moffett - MM-10A OU B-1

SUMMARY OF INSPECTION RESULTS:

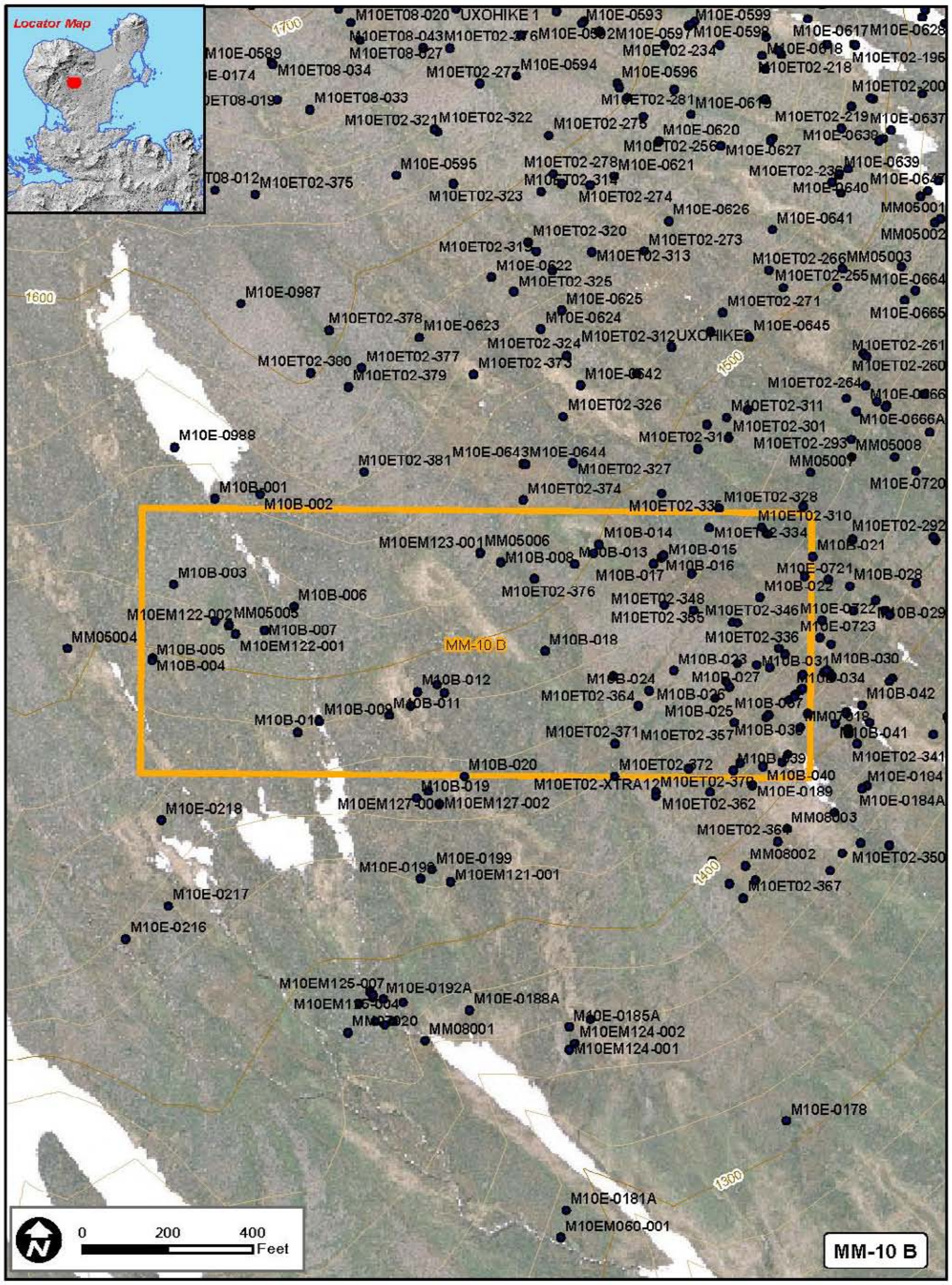
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 118, 129

Mount Moffett - MM-10B OU B-1



Mount Moffett - MM-10B OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

This site is in a bowl-shaped area near the upper flanks of Mt. Moffett on the front (southeast) side, directly south of MM-10A. It is located within a large area generally identified as an impact area for 90-mm and 155-mm projectiles fired from six separate locations on the northern end of Adak Island. Several types of ordnance and MD were discovered in this overall area on Mt. Moffett, and it appears that the front face on the mountain was heavily used as an impact zone. Surrounding areas contained scrap or other ordnance-related items indicative of projectiles of various sizes, including 75-mm and 90-mm projectiles, as well as a fragment from a 155-mm projectile. Mortars were found at lower elevations together with PD 557 fuzes, which are commonly used on large-caliber projectiles.

MM-10B is a small area (22.5 acres) within MM-10E, with steep terrain descending sharply to rolling hills along the southeastern flanks of Mt. Moffett. There is access to the area only by ARGO all-terrain vehicle or helicopter. During the 1999 investigation, ordnance and MD were discovered, indicating the use of 60-mm mortars in the area. This area was investigated a second time during the 2000 RI. Forty-four anomalies were intrusively investigated. Two UXO items, 97 MD items, and 15 metal waste items were found.

Mount Moffett - MM-10B OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. The remedy for this site was implemented in conjunction with MM-10E in 2002, 2004, and 2008. Refer to the site catalog entry for MM-10E for details of remedial actions implemented at MM-10E (as well as MM-10A and MM-10B). The ROD remedy was completed in 2008. However, ADEC and EPA have not concurred with the remedial actions.

Mount Moffett - MM-10B OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-10B OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

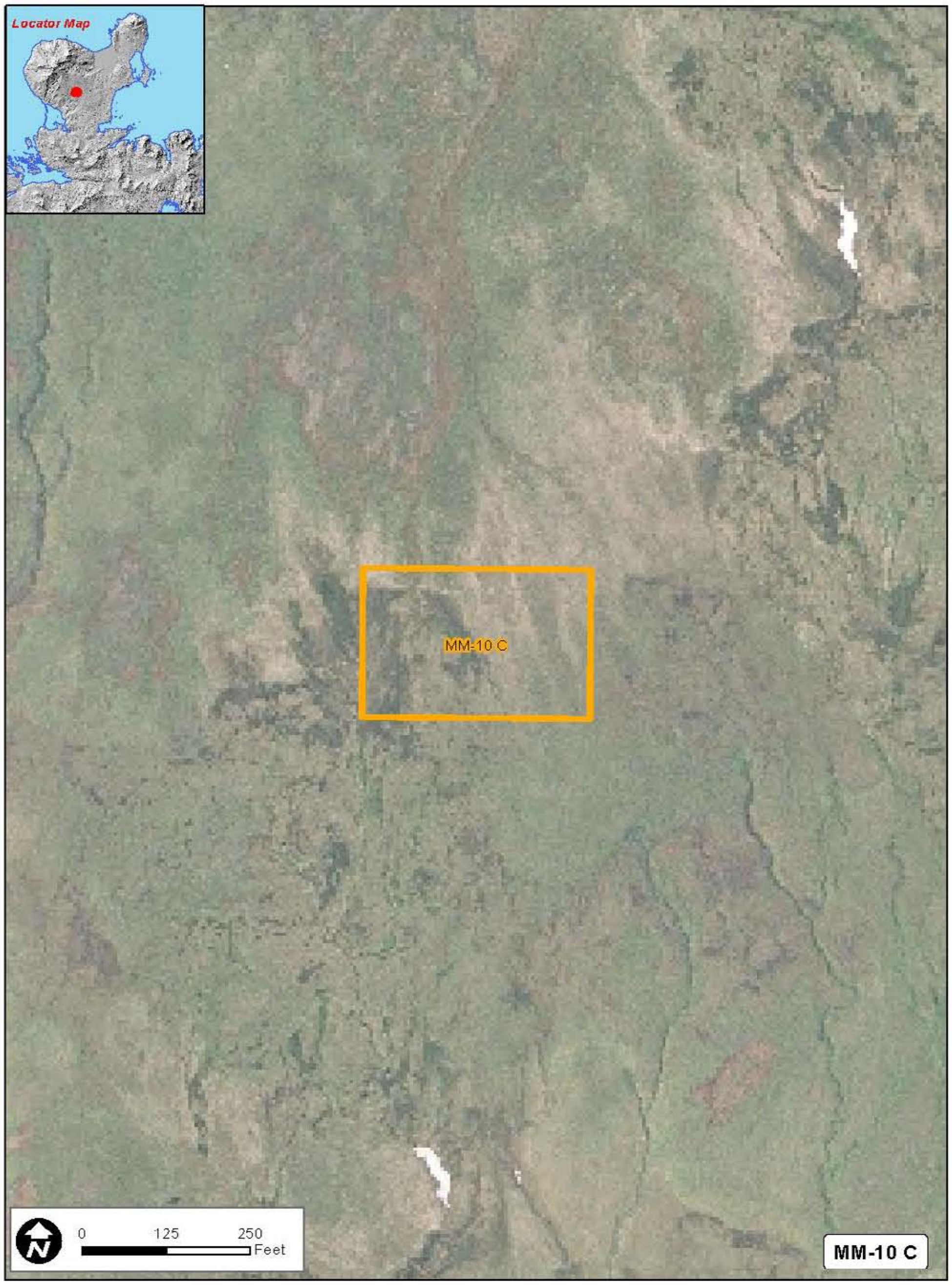
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 101, 118, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10C	**OU B-1**



Mount Moffett - MM-10C OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

This site is located in the southern corner of MM10-E near the WWII Ski Lodge on the southeastern flanks of Mt. Moffett. It is located within a large area generally identified as an impact area for 90-mm and 155-mm projectiles fired from six separate locations on the northern end of Adak Island. Several types of ordnance and MD were discovered in this overall area on Mt. Moffett, and it appears that the front face on the mountain was heavily used as an impact zone. Surrounding areas contained scrap or other ordnance-related items indicative of projectiles of various sizes, including 75-mm and 90-mm projectiles, as well as a fragment from a 155-mm projectile. Mortars were found at lower elevations together with PD 557 fuzes, which are commonly used on large-caliber projectiles.

MM-10C is a small area (1.7 acres) within MM-10E with rolling, moderately steep terrain. There is road access nearby, but direct access to the area is only by ARGO all-terrain vehicle or helicopter. During the 1999 investigation, two 37-mm projectiles (fired) and MD were found in MM-10C. This area was investigated a second time during the 2000 RI. Fifty-seven anomalies were intrusively investigated. One metal waste item and 21 MD items were found during the 2002 investigation.

Mount Moffett - MM-10C OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. Therefore, a geophysical transect survey at 15-meter spacing was performed. The results of the transect survey led to footprint reduction and 100 percent geophysical survey of the resulting area. Two thousand and twenty-two anomalies were identified during the 100 percent geophysical survey. Two UXO items, 1,348 MD items, and 201 metal waste items were recovered. The two UXO items were 37-mm projectiles. MD finds included fragmentation, fuze parts, and 37-mm practice projectiles. In addition, 444 anomalies were classified as no finds, two anomalies were classified as no dig, and two excavations were abandoned. A reason was not provided in the 2002 After Action Report regarding the number of no finds. However, no find verification sampling was performed on 35 (7.8 percent) of the no finds by the QC team. No reason was provided specific to MM-10C regarding the no dig and dig abandoned classifications. However, the report indicated that no dig generally means that digging was never started due to standing water or other obstacle at the site, and dig abandoned generally means that digging was stopped for safety reasons due to the presence of standing water or a large rock in the hole. The ROD remedy was completed in 2002.

Mount Moffett - MM-10C — OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None

Most Recent Inspection Date: August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required

Monitoring File: Not Applicable

Mount Moffett - MM-10C OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 101, 118, 129

Environmental Restoration Site Report
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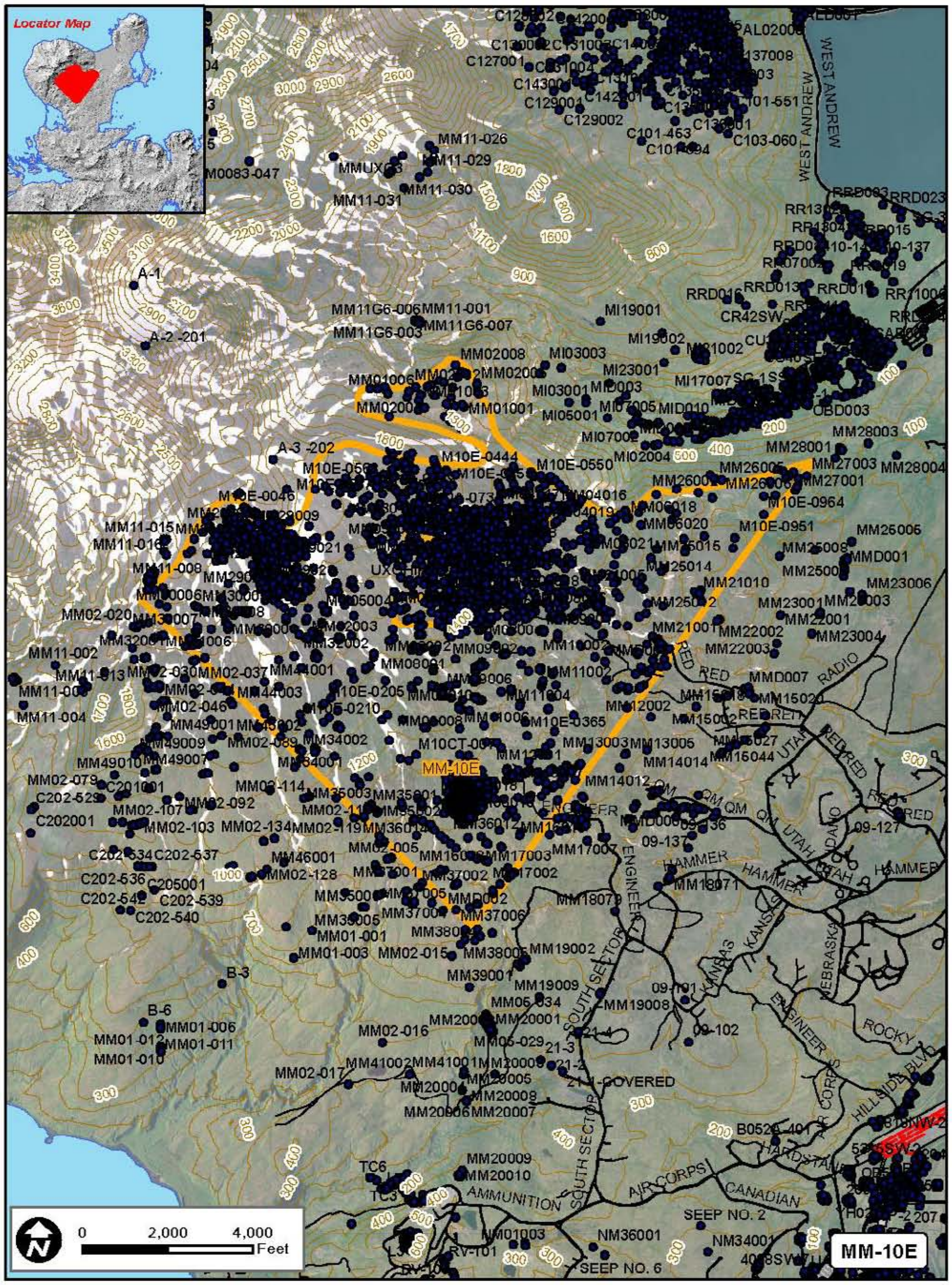
Mount Moffett - MM-10E **OU B-1**



Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10E OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This site is in a bowl-shaped area near the upper flanks of Mt. Moffett on the front (southeast) side. It is located within a large area generally identified as an impact area for 90-mm and 155-mm projectiles fired from six separate locations on the northern end of Adak Island.

MM-10E is a large area (2,127 acres) with steep terrain descending sharply to rolling hills along the southeastern flanks of Mt. Moffett. There is access to the area only by ARGO all-terrain vehicle or helicopter. During the 1999 field investigation, several types of ordnance and MD were discovered in MM-10E and it appears that the area was heavily used as an impact area. Projectiles of various sizes, including 75-mm and 90-mm projectiles, as well as a fragment from a 155-mm projectile, were found in the area. In addition, mortars were found at lower elevations together with PD 557 fuzes, which are commonly used on large-caliber projectiles. During the 2004 field season, the MM-10E area was reduced to 1,764 acres by establishing two new sites: MM-10F and MM-10G.

Mount Moffett - MM-10E OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. In 2001, geophysical work identified 723 anomalies. Nine were classified as UXO and included 20-mm, 37-mm, 40-mm, 75-mm, and 90-mm projectiles; a 3-in HE round; and MK2 fragmentation grenades. Further remedial action was required at this site due to the presence of UXO items at the boundaries.

During the 2002 field activities, transect survey data were collected in probable and possible anomaly areas, and mini-grid data were collected in the outlying fragmentation areas in accordance with the Mount Moffett observational approach. Surveys in MM-10A and MM-10B were not differentiated from those in MM-10E and the data for all three areas are included here. Seventy-seven grids, two 100 percent surveys, and 75 minigrids with 5-meter spacing were performed at various locations in the outlying fragmentation areas. Twenty-eight UXO items, 774 MD items, and 140 metal waste items were recovered. The UXO items included 37-mm, 40-mm, and 75-mm projectiles, as well as fuzes. MD finds included fragmentation and fuze parts. In addition, 315 anomalies were classified as no finds, five anomalies were classified as no dig, and three excavations were abandoned. A reason was not provided in the 2002 After Action Report regarding the number of no finds. Although no find verification sampling was not performed at MM-10E during the 2002 field activities, it was performed at five other sites. No reason was provided specific to MM-10E regarding the no dig and dig abandoned classifications. However, the report indicated that no dig generally means that digging was never started due to standing water or other obstacle at the site, and dig abandoned generally means that digging was stopped for safety reasons due to the presence of standing water or a large rock in the hole. Remedial action was not completed in MM-10E during the 2002 field season.

Work in MM-10E during the 2004 field season began by investigating anomalies remaining from the 2002 field season that were generated from previously collected 15-meter transects. Additional grids and expansion areas also were investigated in 2004. A total of 816 anomalies were investigated within MM-10E, including 33 ordnance items (29 of which were 20-mm projectiles), three 90-mm projectiles, and one 75-mm projectile. Additional anomalies included 361 pieces of MD and 21 items designated as metal waste. Seventy-one anomalies were attributed to hot geology, 10 were listed as other, and there were 610 no finds, 182 of which were related to QC operations. The majority of the remaining no finds can be attributed to the northwest part of MM-10E, where the terrain caused elevated EM61-MK2 noise. Remedial actions were considered complete at MM-10E following the 2004 field activities. However, during installation of the GPO area for MM-10F, G, and H, a munitions item was found in MM-10E. As a result additional geophysical and clearance work was performed in MM-10E during 2008. Finally, during site restoration activities performed at MM-10E in 2010, additional munitions items were discovered. These items were disposed of in 2010.

The ROD remedy was completed in 2008. In 2008, ADEC designated conditional closure with ICs for the site.

Eight soil samples were collected between 2001 and 2002. None had detectable concentrations of ordnance-related chemicals. Therefore, no soil was removed from the site for treatment and/or disposal.

Mount Moffett - MM-10E | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date August 27, 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-10E OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 100, 101, 102, 106, 118, 129

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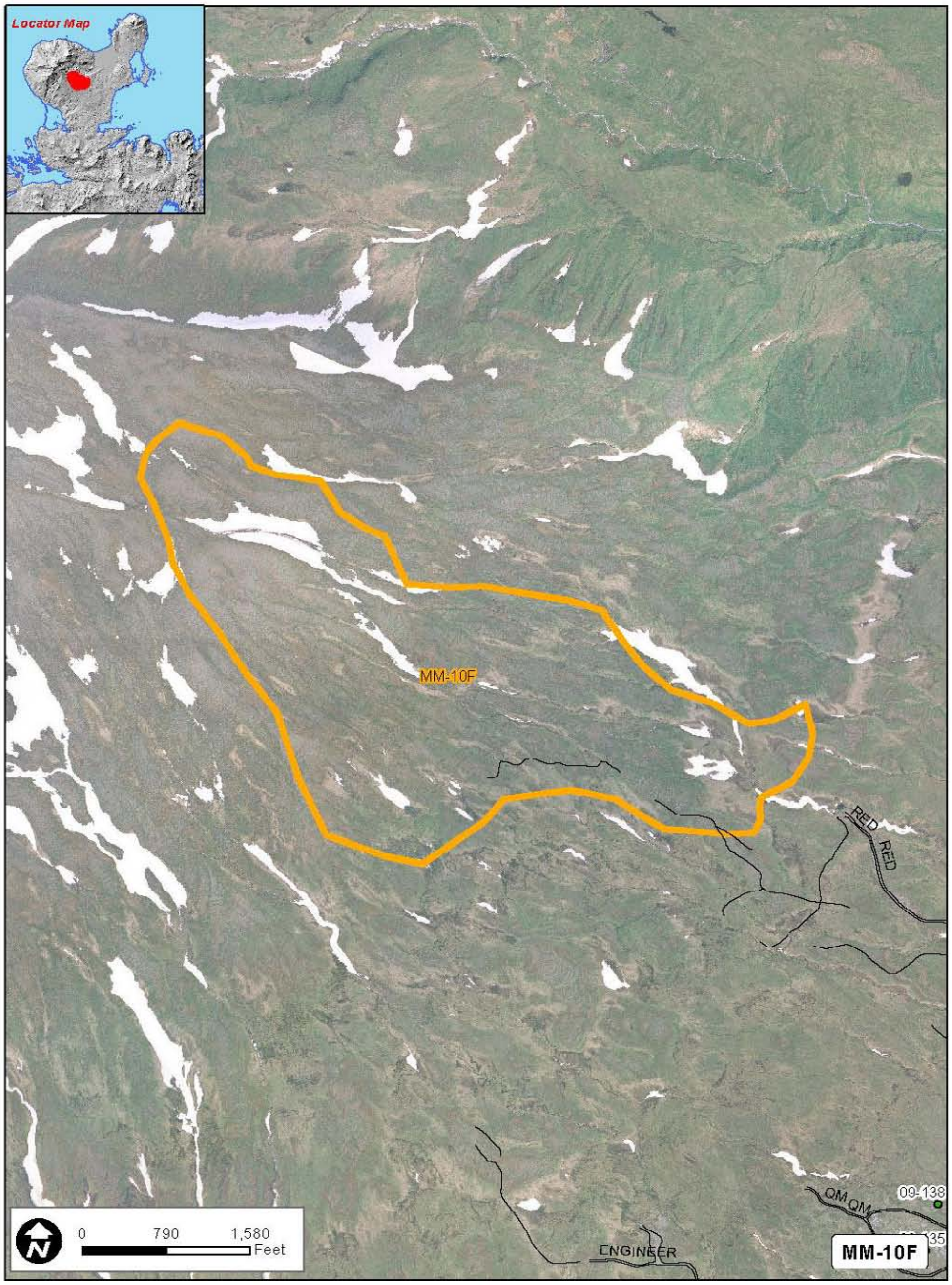
Adak Island, Alaska

Mount Moffett - MM-10F **OU B-1**



Mount Moffett - MM-10F OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

This site is located in the north-central part of MM-10E, which originally consisted of 2,127 acres and is in a bowl-shaped area near the upper flanks of Mt. Moffett on the front (southeast) side. It is located within a large area generally identified as an impact area for 90-mm and 155-mm projectiles fired from six separate locations on the northern end of Adak Island.

During the 1999 field investigation, several types of ordnance and MD were discovered in MM-10E and it appears that the area was heavily used as an impact area. Projectiles of various sizes, including 75-mm and 90-mm, as well as a fragment from a 155-mm projectile, were found in the area. In addition, mortars were found at lower elevations together with PD 557 fuzes, which are commonly used on large-caliber projectiles. During the 2004 field season, the MM-10E area was reduced from 2,127 acres to 1,764 acres by establishing two new sites: MM-10F and MM-10G. These two new areas were designated by studying GIS maps displaying the locations of investigated UXO, DMM, and MD items. These maps showed two distinct anomaly areas possessing significantly higher concentrations of UXO, DMM, and MD items than other areas within MM-10E. MM-10F consists of 320 acres with steep terrain descending sharply to rolling hills along the southeastern flanks of Mt. Moffett. There is access to the area only by ARGO all-terrain vehicle or helicopter.

Mount Moffett - MM-10F OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. The investigation in MM-10F began prior to the existence of this site within MM-10E during the beginning of the 2004 field season. As geophysical expansions and intrusive investigations became ever-increasing at MM-10E during the 2004 field season, it was decided to bound this area as its own site. Once boundaries for MM-10F were determined, the area was divided into 517 50-meter by 50-meter square grids and a TAVSC was performed. The magnitude of MEC contamination was greater than anticipated, and surface clearance activities were conducted in 2004 without concurrence from the project team, a deviation from the approved work plan. During the 2004 field season, a total of 18 UXO items, 3,095 MD items, and 61 metal waste items were identified in MM-10F during intrusive and TAVSC operations. In addition, 74 anomalies were attributed to hot geology, 163 anomalies were classified as no finds, 45 anomalies were classified as other, and 15 excavations were abandoned. A reason was not provided in the 2004 After Action Report regarding the number of no finds. No reason was provided specific to MM-10F regarding the other or dig abandoned classifications. However, the report indicated that “other” generally means bottle caps, kitchen utensils, construction debris, etc. and dig abandoned generally means that digging was stopped for safety reasons due to the presence of standing water or a large rock in the hole.

Remedial actions were not completed at MM-10F during the 2004 field season. An additional workplan was developed and approved by the project team for implementation beginning in 2008. Additional geophysical work and clearance activities consistent with the selected remedy were performed in 2008 at MM-10F. Because ordnance-related items were encountered within the 15-meter buffer zone, this site required further investigation of four step-outs in the 2009 field season. The ROD remedy was completed in 2009. However, during site restoration activities performed at MM-10F in 2010, an additional munitions item was discovered. This item was disposed of in 2010.

During clearance activities performed at MM-10F, a breached munitions item was found in August of 2008. After the breached munitions item was removed, a five-point composite sample was collected and tested for TNT using a field test kit in September 2009. The concentration of TNT was below cleanup levels. Therefore, a second five-point composite sample was collected for off-site analysis. Ordnance-related chemicals were either not detected or detected at concentrations below cleanup goals established in the ROD.

The AAR and RACR are being prepared and have yet to be reviewed by the regulatory agencies. Discussion of remedial activities from 2008 through 2010 was not included because final documentation of these was not available for review and inclusion in the Site Catalog.

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10F	OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-10F OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

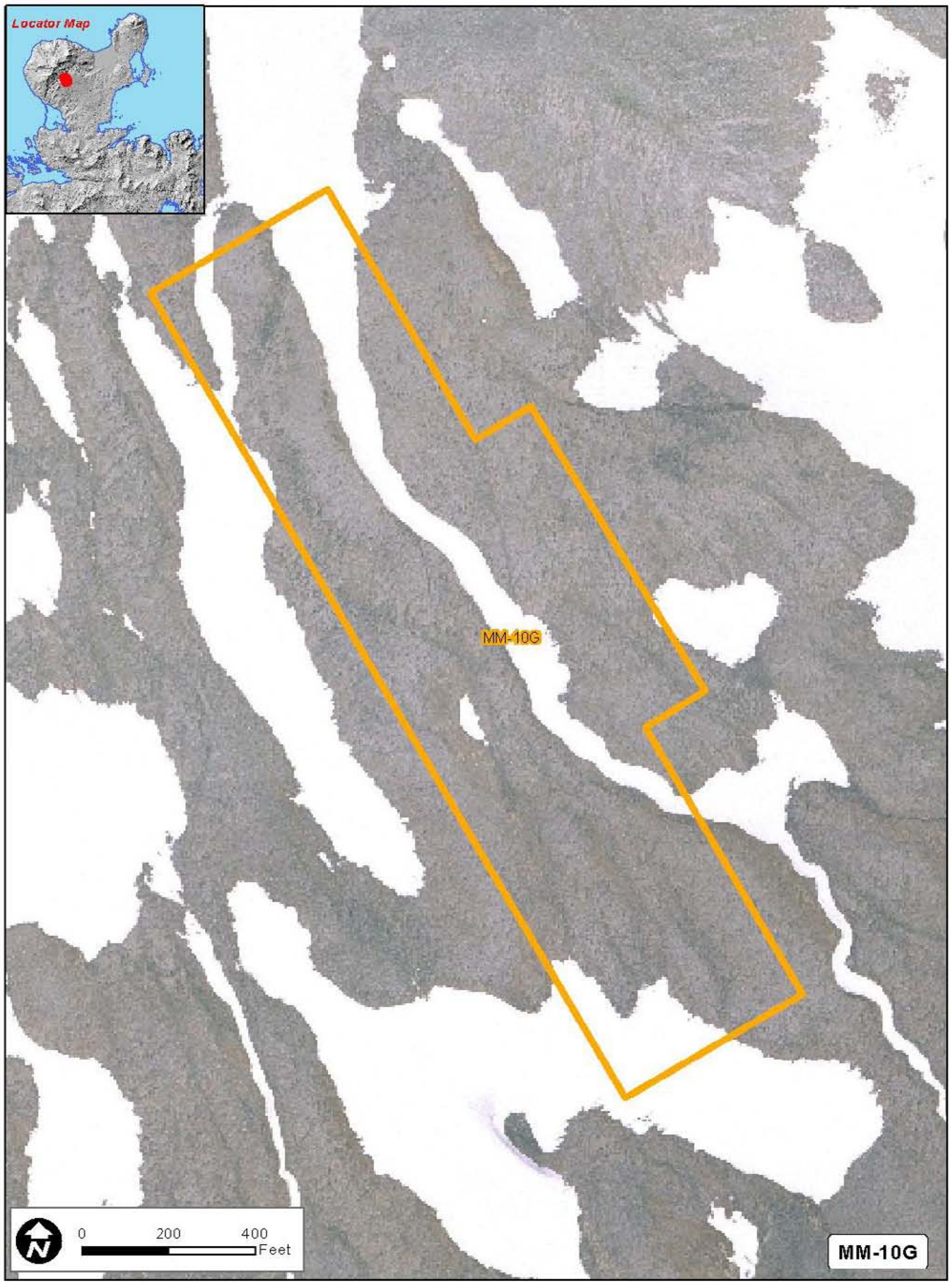
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 100, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10G **OU B-1**



Mount Moffett - MM-10G OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

This site is location in the western part of MM-10E, which originally consisted of 2,127 acres and is in a bowl-shaped area near the upper flanks of Mt. Moffett on the front (southeast) side. It is located within a large area generally identified as an impact area for 90-mm and 155-mm projectiles fired from six separate locations on the northern end of Adak Island.

During the 1999 field investigation, several types of ordnance and MD were discovered in MM-10E and it appears that the area was heavily used as an impact area. Projectiles of various sizes, including 75-mm and 90-mm, as well as a fragment from a 155-mm projectile, were found in the area. In addition, mortars were found at lower elevations together with PD 557 fuzes, which are commonly used on large-caliber projectiles. During the 2004 field season, the MM-10E area was reduced from 2,127 acres to 1,764 acres by establishing two new sites: MM-10F and MM-10G. These two new areas were designated by studying GIS maps displaying the locations of investigated UXO, DMM, and MD items. These maps showed two distinct anomaly areas possessing significantly higher concentrations of UXO, DMM, and MD items than other areas within MM-10E. MM-10F consists of 43 acres. This site is located on the northwest side of Mount Moffett and contains a large amount of airplane wreckage. There is access to the area only by ARGO all-terrain vehicle or helicopter.

Mount Moffett - MM-10G OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. The investigation in MM-10G began prior to the designation of this site within MM-10E during the beginning of the 2004 field season. As geophysical expansions and intrusive investigations became ever-increasing at MM-10E during the 2004 field season, it was decided to bound this area as its own site. A TAVSC was not performed at this site during the 2004 field activities, and further investigation of this site was deferred to future field seasons. The magnitude of MEC contamination was greater than anticipated, and surface clearance activities were conducted in 2004 without concurrence from the project team, a deviation from the approved work plan. During the 2004 field season, a total of three UXO items, 343 MD items, and 75 metal waste items were identified in MM-10G during intrusive operations. In addition, 13 anomalies were attributed to hot geology, 440 anomalies were classified as no finds, and two anomalies were classified as other. A reason was not provided in the 2004 After Action Report regarding the number of no finds. No reason was provided specific to MM-10G regarding the other classification. However, the report indicated that “other” generally means bottle caps, kitchen utensils, construction debris, etc.

Mount Moffett - MM-10G OU B-1

Remedial actions were not completed at MM-10G during the 2004 field season. An additional workplan was developed and approved by the project team for implementation beginning in 2008. Additional geophysical work and clearance activities were performed in 2008 at MM-10G. Because ordnance-related items were encountered within the 15-meter buffer zone, this site required further investigation of one step-out in the 2009 field season. The ROD remedy was completed in 2009.

During clearance activities performed at MM-10G, a breached munitions item was found in August of 2009. After the breached munitions item was removed, a five-point composite sample was collected and tested for TNT using a field test kit in September 2009. Because the concentration of TNT was above cleanup levels, soil was excavated from the site. After excavation, a second five-point composite sample was collected and tested for TNT using a field test kit. Because this sample was below cleanup levels, a five-point composite sample of in-place soil was collected for off-site analysis. A sample also was collected from the excavated soil stockpile. The TNT concentration of the sample collected from in-place soil exceeded the cleanup goal established in the ROD. In addition, the concentrations of 2-amino-4,6-dinitrotoluene and 4-amino-2,6-dinitrotoluene exceeded recently established ADEC cleanup levels. After discussions with regulators, further sampling or soil excavation was determined to be unnecessary.

The AAR and RACR are being prepared and have yet to be reviewed by the regulatory agencies. Discussion of 2008 and 2009 remedial activities were not included because final documentation of these was not available for review and inclusion in the Site Catalog.

Mount Moffett - MM-10G OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Surface Water Monitoring
- [ ] Sediment Monitoring
- [ ] Tissue Monitoring
- [ ] Landfill Inspection
- [x] IC Inspection
- [ ] Remediation System Monitoring and Maintenance
- [ ] None Required

Most Recent Sampling Date None

Most Recent Inspection Date: August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required

Monitoring File: Not Applicable

Mount Moffett - MM-10G OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

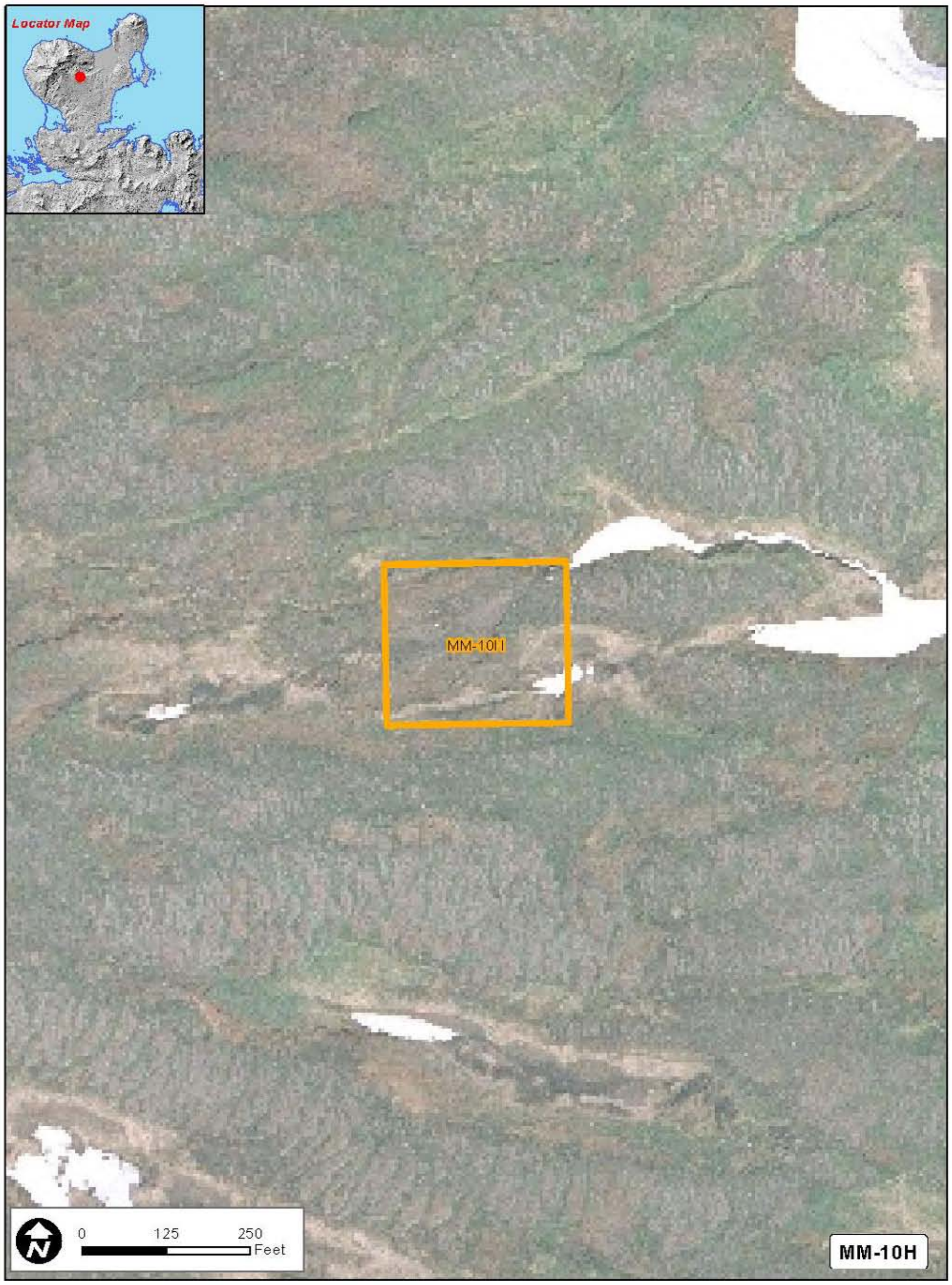
The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 100, 129

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10H	OU B-1



Mount Moffett - MM-10H OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

This site is located on the northern border of MM-10E. MM-10E is in a bowl-shaped area near the upper flanks of Mt. Moffett on the front (southeast) side. It is located within a large area generally identified as an impact area for 90-mm and 155-mm projectiles fired from six separate locations on the northern end of Adak Island. Several types of ordnance and MD were discovered in this overall area of Mt. Moffett, and it appears that the front face on the mountain was heavily used as an impact zone. Surrounding areas contained scrap or other ordnance-related items indicative of projectiles of various sizes, including 75-mm and 90-mm, as well as a fragment from a 155-mm projectile. Mortars were found at lower elevations together with PD 557 fuzes, which are commonly used on large-caliber projectiles.

MM-10H is 2.6 acres in size, and was created in December 2004 due to three 90-mm projectiles that were located in this area during the 2004 field season. The center of MM-10H is located approximately 60 meters east of the original boundaries

Mount Moffett - MM-10H OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site.

Due to the magnitude of MEC contamination being greater than anticipated, only surface clearance was conducted during 2004, a deviation from the workplan conducted without concurrence from the project team. An additional workplan was developed and approved by the project team for implementation beginning in 2008. Further remediation work on this site began in 2008. Both geophysical work and clearance activities also were completed at this site in 2008. Therefore, the ROD remedy was completed in 2008.
The AAR and RACR are being prepared and have yet to be reviewed by the regulatory agencies. Discussion of 2008 remedial activities was not included because final documentation of these was not available for review and inclusion in the Site Catalog

Environmental Restoration Site Report
Adak Island, Alaska

Mount Moffett - MM-10H OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date None **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-10H OU B-1

SUMMARY OF INSPECTION RESULTS:

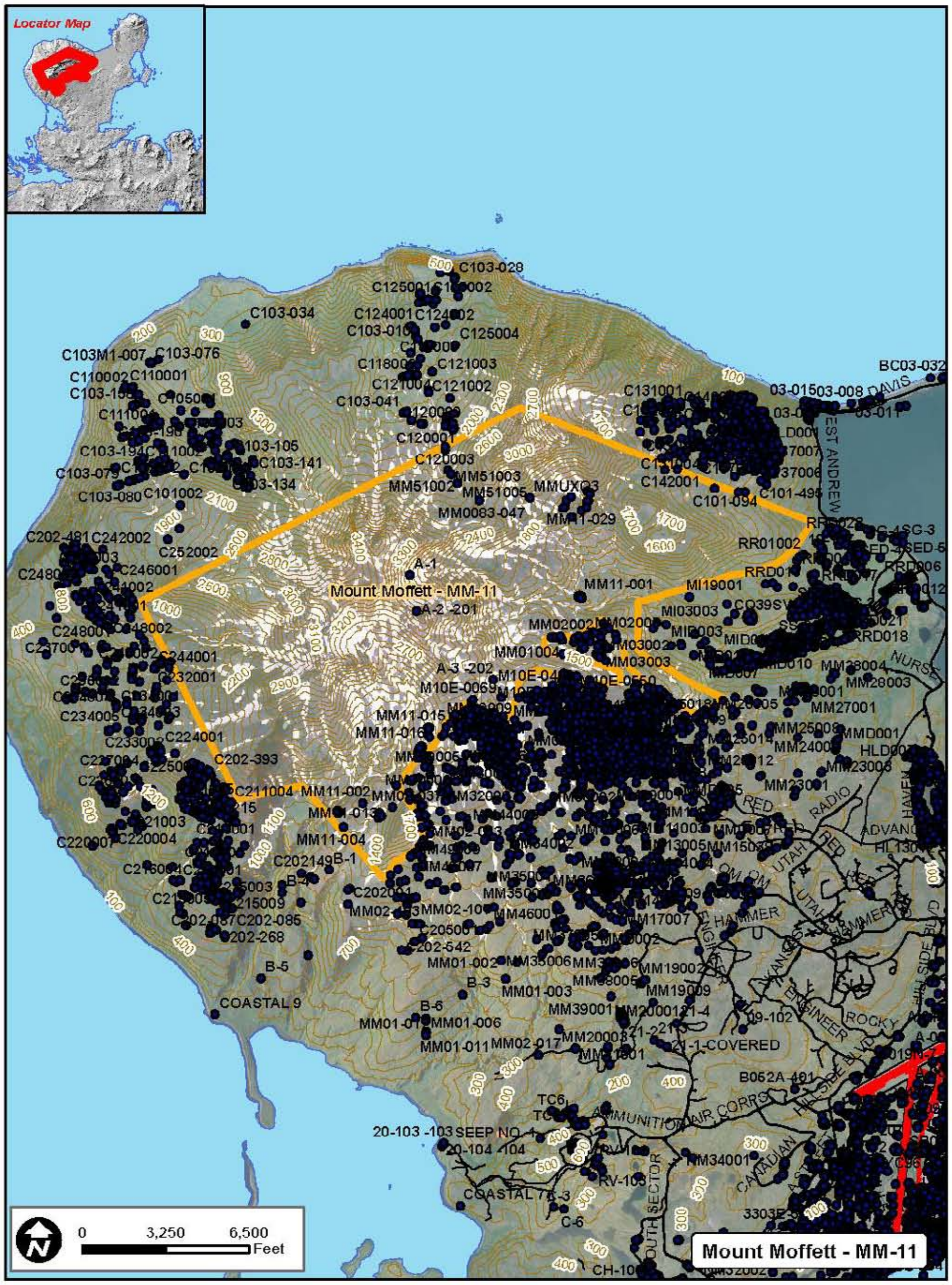
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 100, 129

Mount Moffett - MM-11	OU B-1



Mount Moffett - MM-11 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This area is located northwest of the peak of the mountain adjacent to the most remote portions of Combat Range #1 and Combat Range #2. The area is identified in historical firing orders as part of three impact areas: one 90-mm impact area, one 155-mm impact area, and one area identified only as a large-caliber impact area.

The entire MM-11 area is 4,974 acres. The terrain in this area is generally very steep, rocky, and inaccessible. There are deep stream ravines carrying runoff down the mountainside and rocky ridgelines between the ravines. There are smaller areas that are flatter; however, these are generally surrounded by terrain too rugged to traverse safely. There is access to the area only by ARGO all-terrain vehicle or helicopter. This area was not investigated during the 1999 field season; however, during transit across the northwestern saddle toward Combat Range #1, field staff noted an area that contained fragmentation and MD. Two fired 90-mm projectiles also were found on the surface in this area. Initial geophysical surveys were completed during the 2000 field season, and 31 anomalies were located. No intrusive investigation was performed on the 31 anomalies during the 2000 field season.

Mount Moffett - MM-11 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

REMEDY IMPLEMENTATION:

The selected remedy is observation approach presumptive clearance. Implementing the remedy first required gathering final characterization data on the extent of ordnance contamination as part of the observational approach to executing clearance at the site. More specifically, the goal of the work performed in 2002 was to complete the intrusive investigation of the area. A single 20-mm projectile was found during the initial intrusive work, along with several fragmentation items. A 100 percent geophysical survey grid was completed at the 20-mm find location and five 30-meter by 30-meter minigrids were surveyed at fragmentation find locations. Two more 20-mm projectiles (UXO) were recovered, and a total of eight MD items (fragmentation) were recovered. In addition, 81 anomalies were classified as no finds. Remedial action was not completed in MM-11 during the 2002 field season.

During 2004, a 30-meter by 30-meter (100 percent coverage) survey was to be conducted over the location of a 90-mm projectile that was found on the surface during the 2002 field season by a hiker (an off-duty UXO tech). There also was a piece of fragmentation to the east of this UXO item that required a 30-meter by 30-meter (5-meter transect) grid to be surveyed. A total of 67 anomalies were targeted in MM-11, two of which were fragmentation items that required additional geophysical mapping. Both pieces of fragmentation were located at or near the surface and were likely the result of the 90-mm projectile being blown in place during the 2002 field season. Four anomalies were found to be hot geology and the remaining targets were no finds.

The ROD remedy was completed in 2004. In 2008, ADEC designated conditional closure with ICs for the site.

Ordnance-related chemicals were not reported above detection limits in the one soil sample collected in 2002.

Mount Moffett - MM-11 | OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

☐ Groundwater Monitoring	☐ Landfill Inspection
☐ Surface Water Monitoring	☑ IC Inspection
☐ Sediment Monitoring	☐ Remediation System Monitoring and Maintenance
☐ Tissue Monitoring	☐ None Required

Most Recent Sampling Date October 15, 2002 **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Mount Moffett - MM-11 OU B-1

SUMMARY OF INSPECTION RESULTS:

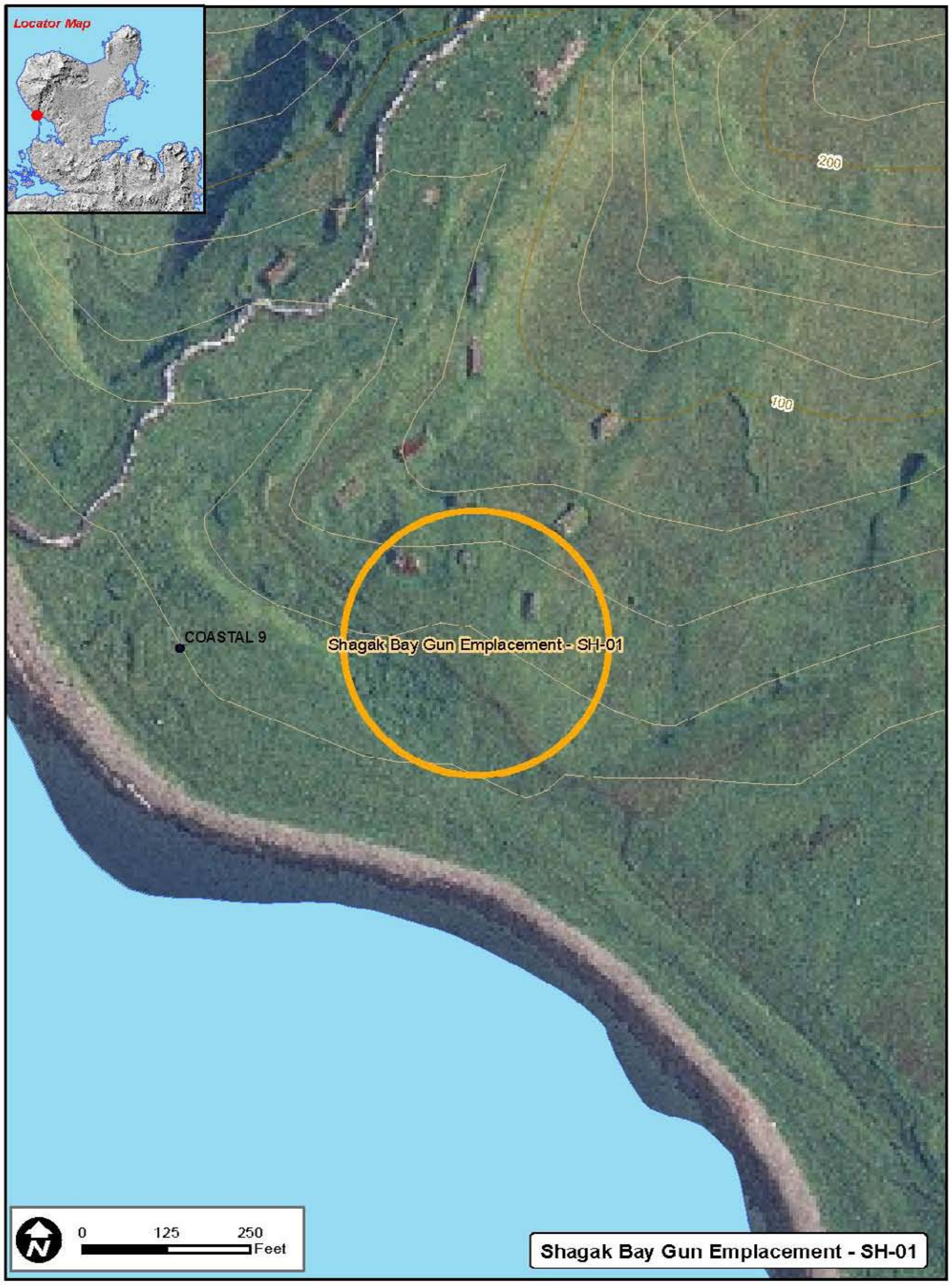
The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 100, 101, 106, 118, 129

Shagak Bay Gun Emplacement - SH-01 OU B-1



Shagak Bay Gun Emplacement - SH-01 OU B-1

STATUS: Conditional closure with ICs, pending EPA concurrence.

BACKGROUND:

This area supported four 155-mm Howitzer gun emplacements on the far west side of the hills west of downtown Adak and northeast of Shagak Bay. This area is characterized by steep rolling hills. This area was first investigated during the 2001 field season after its discovery in archival data.

Shagak Bay Gun Emplacement - SH-01 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. No explosives-related chemical contamination was identified at this site.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use. Only the RAO established for ordnance applies to this site.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas.

REMEDY IMPLEMENTATION:

The selected remedy was observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At SH-01, the reconnaissance survey was performed in 2001. The goal of work was to determine whether any unauthorized burial or abandonment of ordnance occurred at this site. Reconnaissance data collected showed no indication of contamination with ordnance-related material. Since no MEC was identified during the reconnaissance survey, the site was designated NFA and the ROD remedy was completed in 2001. Therefore, no work was completed at SH-01 during the 2004 field activities, although it was included in the 2004 after action report. In 2008, ADEC designated conditional closure with ICs for the site.

Shagak Bay Gun Emplacement - SH-01 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- ☐ Groundwater Monitoring
- ☐ Surface Water Monitoring
- ☐ Sediment Monitoring
- ☐ Tissue Monitoring
- ☐ Landfill Inspection
- ☑ IC Inspection
- ☐ Remediation System Monitoring and Maintenance
- ☐ None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

Shagak Bay Gun Emplacement - SH-01 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

BIBLIOGRAPHY:

83, 91, 99, 100, 102, 106, 129

WWII Ammunition Pier (Sweeper Cove) - AP-02 OU B-1

WWII Ammunition Pier (Sweeper Cove) - AP-02 OU B-1

STATUS: Cleanup complete with ICs, closure pending ADEC and EPA concurrence.

BACKGROUND:

AP-02 is the area underlying the location of the former ammunition pier in Sweeper Cove, a natural inlet developed into a full-service port that flanks the south side of downtown Adak. The pier was formerly located along the north shoreline of Sweeper Cove. The 800-foot long, T-shaped wood pier was used to off-load ordnance during WWII. The terrain in the area where the pier met the shoreline is relatively flat and somewhat rocky. There is no known documentation of offshore abandonment or disposal of ordnance into the water from any of the pier-related military activities. However, it is possible that ordnance may have been dropped from the pier during off-loading or handling.

WWII Ammunition Pier (Sweeper Cove) - AP-02 OU B-1

COCs AND RISKS:

While not specified as a COC in the OU B-1 ROD, the site risk addressed in the remedy is ordnance. Potential explosive-related chemical risks to ecological receptors were also investigated.

RAOs:

The goal of the OU B-1 investigation and remediation activities on Adak Island was to take steps to effectively reduce and manage potential explosive hazards and potential chemical risks posed by MEC in order to protect human health and the environment for current and reasonably expected future land use. The RAOs were intended to support an unrestricted (i.e., residential) future land use that included the possibility of activity that could disturb subsurface MEC. Two RAOs were established: one addressed explosive safety issues, and the other addressed the chemical residues in soil resulting from past ordnance use.

The RAO pertaining to the explosive safety aspect of the ordnance is to reduce any remaining potential explosive safety hazards throughout OU B-1 through the application of the ESHA process and subsequent clearance of MEC, as necessary, to support current and reasonably expected future land use. Cleanup levels are typically numeric expressions of RAOs. However, for explosive hazards associated with the OU B-1 sites, the cleanup level entails removing all known MEC items that can be located using an ordnance detection system that meets performance criteria established for Adak and that are located in reasonably accessible areas. RAOs were identified in section 8 of the Final 2001 OU B-1 ROD.

The RAO for potential ordnance-related chemical risks is to prevent future residents and recreational users from being exposed to explosives-related contamination in soil above the cleanup levels. The cleanup levels established in the ROD are based on EPA Region 9 PRGs for residential soil

REMEDY IMPLEMENTATION:

The selected remedy for AP-02 was observation approach presumptive clearance. Implementing the remedy first required performing a reconnaissance survey using visual inspection and hand-held geophysical detectors to better define the areas requiring final characterization. At AP-02, the reconnaissance survey was an underwater dive, which was performed in 2001. The goal of this dive was to determine whether any unauthorized abandonment of ordnance occurred at the site. Observational data collected during the reconnaissance survey revealed one piece of MD, consisting of a spent 0.5-caliber casing. Since no MEC were identified during the reconnaissance survey, the site was designated NFA and the ROD remedy was completed in 2001.

WWII Ammunition Pier (Sweeper Cove) - AP-02 OU B-1

OPERATIONS, MAINTENANCE, AND MONITORING:

Monitoring Types:

- [ ] Groundwater Monitoring
- [ ] Landfill Inspection
- [ ] Surface Water Monitoring
- [x] IC Inspection
- [ ] Sediment Monitoring
- [ ] Remediation System Monitoring and Maintenance
- [ ] Tissue Monitoring
- [ ] None Required

Most Recent Sampling Date Not Applicable **Most Recent Inspection Date:** August 2010

Current Media Sampled None

Current Analytes Sampled None

Current Monitoring None Required **Monitoring File:** Not Applicable

WWII Ammunition Pier (Sweeper Cove) - AP-02 OU B-1

SUMMARY OF INSPECTION RESULTS:

The 2009 IC inspection report considered the ordnance awareness program to be functioning effectively for children and visitors, but not as effectively for adult residents. Based on this, the 2009 IC inspection report recommended that an evaluation of the education program be conducted. It also recommended additional measures be evaluated to ensure that the video at the Adak airport will play consistently and at the correct time. If the issues with the video cannot be corrected, it is recommended that other methods be evaluated for distributing ordnance awareness information.

The 2010 IC report indicated improvement in the effectiveness of the ordnance awareness program. Survey results indicated the program was most effective with visitors and children, however adult residents could benefit from increased awareness regarding excavation permits, groundwater restrictions, and the Navy outreach website and toll free phone number.

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83, 91, 99, 102, 117, 129

Acronyms

µg/L	micrograms per liter
AAC	Alaska Administrative Code
ACL	alternative cleanup level
ADEC	Alaska Department of Environmental Conservation
AK	Alaska
AO	abandoned ordnance
AOC	area of concern
ARAR	applicable or relevant and appropriate requirement
ASR	Airport Surveillance Radar
AST	aboveground storage tank
avgas	aviation gasoline
BEQ	Bachelor's Enlisted Quarters
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CDAA	Circulary Disposed Antenna Array
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CMP	comprehensive monitoring plan
COC	contaminant of concern
COD	chemical oxygen demand
cPAH	carcinogenic polycyclic aromatic hydrocarbon
DEM	downgradient exposure medium
DMM	discarded military munitions
DRMO	Defense Reutilization Marketing Office
DRO	diesel-range organics
EPA	Environmental Protection Agency
ESHA	explosives safety hazard assessment
FCT	field-constructed tanks

Acronyms

FFA	Federal Facilities Agreement
FFS	focused feasibility study
FS	feasibility study
GCI	General Communications, Inc.
GEM	Ground Electronics Maintenance
GIS	Geographic Information Systems
GPO	geophysical prove-out
GRO	gasoline-range organics
GS	grain size
GSE	Ground Support Equipment
GW	groundwater
HE	high explosive
HI	hazard index
HWSA	Hazardous Waste Storage Area
HWSF	Hazardous Waste Storage Facility
IC	institutional control
ICMP	Institutional Control Management Plan
IDW	investigation-derived waste
JP	jet propellant
LFI	limited field investigation
LORAN	long-range navigation
LPAH	low molecular weight polycyclic aromatic hydrocarbon
LTM	long term monitoring
MAUW	Modified Advanced Undersea Weapons
MCL	maximum contaminant level
MD	munitions debris
MEC	munitions and explosives of concern

Acronyms

mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MLLW	mean lower low water
mm	millimeter
MNA	monitored natural attenuation
mogas	motor gasoline
msl	mean sea level
NAE	natural attenuation evaluation
NAF	Naval Air Facility
NAPs	natural attenuation parameters
NAVFAC	Naval Facility
NEX	Navy Exchange
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NMCB	Naval Marine Construction Battalion
NSGA	Naval Security Group Activity
OE	ordnance and explosives
ORO	oil-range organics
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyls
PCE	tetrachloroethene
PD	point detonating
PID	photoionization detector
POL	petroleum, oil, and lubricant
PRG	preliminary remediation goal
PSE	Preliminary Source Evaluation

Acronyms

PT	product thickness
PVC	polyvinyl chloride
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RDX	Royal Demolition Explosive
RI	remedial investigation
ROD	Record of Decision
ROICC	Resident Officer in Charge of Construction
RRO	residual-range organics
SA	Source Area
SAERA	State-Adak Environmental Restoration Agreement
SDSA	Small Drum Storage Area
SI	site investigation
SVOC	semivolatile organic compound
SW	surface water
SWMU	solid waste management unit
TAH	total aromatic hydrocarbon
TAqH	total aqueous hydrocarbon
TAVSC	technology aided visual surface clearance
TCDD	tetrachlorodibenzo-p-dioxin
TDS	total dissolved solids
TEF	toxic equivalency factor
TKN	total Kjehldahl nitrogen
TNT	trinitrotoluene
TPH	total petroleum hydrocarbon
TRPH	total recoverable petroleum hydrocarbon
TSCA	Toxic Substances Control Act

Acronyms

UoP	units of production
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UXO	unexploded ordnance
VOC	volatile organic compound
WP	white phosphorus
WWII	World War II

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119	ADEC	Cleanup Complete with Institutional Controls Determination for SA-82 NSGS P80/P81 Buildings. Letter to Aaron Vernik of NAVFAC NW from Meghan Dooley, ADEC. June 22, 2010.
120	ADEC	Remedial Action Complete for SA-82 NSGA P801P8 1 Buildings. Letter to Gary Simmons of NAVFAC NW from Guy Warren, ADEC. July 30, 2007.
121	Navy	Final Petroleum Summary Report, Adak Island, Alaska. Prepared by Integrated Concepts and Research Corporation for NAVFAC NW. February 22, 2006.
122	Navy	Well Installation, Repair, and Abandonment Report, Former Adak Naval Complex, Adak, Alaska. Prepared by URS for NAVFAC NW. January 8, 2007.
123	Navy, ADEC	Decision Document, SWMU 17, Power Plant No. 3 Area, Former Adak Naval Complex, Adak, Alaska. Prepared by U.S. Navy and ADEC. December 14, 2006.
124	ADEC	Conditional Closure determination for Yakutat Hangar UST T-2039-A. Letter to Jim Brown of NAVFAC NW from Guy Warren, ADEC. May 1, 2007.
125	Navy	Comprehensive Monitoring Plan, Revision 4, Operable Unit A, Former Adak Naval Complex, Adak, Alaska. Prepared by URS for NAVFAC NW. August 25, 2010.
126	Navy	Annual Landfill Monitoring Report, September 2009, Operable Unit A, Former Naval Air Facility, Adak, Alaska. Prepared by Sealaska Environmental Services, LLC for NAVFAC NW. July 1, 2010.

Bibliography

Reference Number	Author	Reference
127	Navy	Annual Landfill Monitoring Report, September 2008, Operable Unit A, Former Naval Air Facility, Adak, Alaska. Prepared by SES-TECH for NAVFAC NW. July 15, 2009.
128	Navy	Final RCRA Closure Plan, Hazardous Waste Storage Facility, Small Drum Storage Area, and Metals Landfill Waste Pile, Naval Air Facility, Adak, Adak Island, Alaska. Prepared by URS for NAVFAC NW. April 26, 1995.
129	Navy	2010 Institutional Controls Site Inspection Report, Operable Unit A and B-1, Former Naval Complex, Adak, Alaska. Prepared by Sealaska Environmental Services, LLC for NAVFAC NW. March 24, 2011.
130	Navy	Remedial Action Summary Report, Free Product Recovery, Adak, South of Runway 18-36 Area, and SWMU 62 New Housing Fuel Leak, Former Naval Complex, Adak, Alaska. Prepared by Sealaska Environmental Services, LLC for NAVFAC NW. March 23, 2011.
131	Sealaska	Final Technical Memorandum, Evaluation of Additional Sampling and Investigation at SWMU 4, South Davis Road Landfill, 2009 Long Term Monitoring, Former Naval Facility, Task Order 02, Adak Alaska. Prepared by Sealaska Environmental Services, LLC for NAVFAC NW. January 14, 2010.
132	Sealaska	Final Technical Memorandum, Evaluation of Additional Sampling and Investigation at SWMU 61 Tank Farm B and East Canal, 2009 Long Term Monitoring, Former Naval Facility, Task Order 02, Adak, Alaska. Prepared by Sealaska Environmental Services, LLC for NAVFAC NW. March 23, 2011.
134	Navy	Final Annual Groundwater Monitoring Report, Fall 2010, Operable Unit A, Former Adak Naval Complex, Adak, Alaska. Prepared by Sealaska for NAVFAC NW. June 17, 2011.
135	Navy	Annual Landfill Monitoring Report, Fall 2010, Operable Unit A, Former Naval Complex, Adak, Alaska. Prepared by Sealaska for NAVFAC NW. April 27, 2011.

Institutional Controls, Engineering Controls, and Operations and Maintenance for OU A Sites

Site Name	Institutional Controls					Engineering Controls	Operations and Maintenance							
	Land Use Restrictions[a]	**Equitable Servitude**[b]	**Groundwater Restrictions**[c]	**Soil Excavation Restrictions**[d]	**Fishing Advisory**[e]	**Signage**	**Comprehensive Monitoring**[j]	**Education**[f]	**Site/Remedy Condition Inspections and Reporting**[g]	**Sign Inspection**[h]	**Soil Cover Inspections**[i]	**Free-Product Monitoring and Recovery**	**Visual Inspection**[k]	**Treatment Systems**[l]
CERCLA Sites														
Kuluk Bay					X		X	X	X					
SA 76, Old Line Shed Building	X	X	X	X		X			X					
SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area	X	X	X	X		X			X					
Sweeper Cove					X		X	X	X					
SWMU 2, Causeway Landfill**	X	X		X		X			X	X	X			
SWMU 4, South Davis Road Landfill**	X	X		X		X			X	X	X			
SWMU 10, Old Baler Building	X	X	X	X		X			X	X				
SWMU 11, Palisades Landfill**	X	X		X		X	X		X	X	X			
SWMU 13, Metals Landfill**	X	X	X	X		X	X		X	X	X			
SWMU 14, Old Pesticide Disposal Area*	X	X	X	X		X	X		X	X				
SWMU 15, Future Jobs/DRMO*	X	X	X	X		X	X		X	X				
SWMU 16, Former Firefighting Training Area	X	X	X	X		X			X	X				
SWMU 17, Power Plant 3 Area*	X	X	X	X		X	X		X	X				
SWMU 18, South Sector Drum Disposal Area (White Alice Landfill) and SWMU 19, Quarry Metal Disposal Area (White Alice Landfill)**	X	X		X		X	X		X	X	X			
SWMU 20, White Alice/Trout Creek Disposal Area	X	X		X		X			X	X				
SWMU 21A, White Alice Upper Quarry	X	X		X		X			X	X				
SWMU 23, Heart Lake Drum Disposal Area	X	X		X		X			X	X				
SWMU 24, Hazardous Waste Storage Facility	X	X	X	X		X			X	X				
SWMU 25, Roberts Landfill	X	X	X	X		X	X		X	X	X			
SWMU 29, Finger Bay Landfill**	X	X		X		X			X	X	X			
SWMUs 52, 53, 59, Former Loran Station	X	X		X		X			X	X				
SWMU 55, Public Works Transportation Department Waste Storage Area	X	X	X	X		X	X		X	X				

Institutional Controls, Engineering Controls, and Operations and Maintenance for OU A Sites

	Institutional Controls					Engineering Controls	Operations and Maintenance							
Site Name	Land Use Restrictions[a]	Equitable Servitude[b]	Groundwater Restrictions[c]	Soil Excavation Restrictions[d]	Fishing Advisory[e]	Signage	Comprehensive Monitoring[j]	Education[f]	Site/Remedy Condition Inspections and Reporting[g]	Sign Inspection[h]	Soil Cover Inspections[i]	Free-Product Monitoring and Recovery	Visual Inspection[k]	Treatment Systems[l]
SWMU 67, White Alice PCB Spill Site	X	X		X		X			X	X	X			
Petroleum Sites										X				
Amulet Housing, Well AMW-706 Area	X	X	X	X		X			X	X				
Amulet Housing, Well AMW-709 Area	X	X	X	X		X			X	X				
Antenna Field, USTs ANT-1, ANT-2, ANT-3, and ANT-4	X	X	X	X		X	X		X	X				
Boy Scout Camp, West Haven Lake, UST BS-1[m]				X		X				X				
Finger Bay Quonset Hut, UST FBQH-1[m]				X		X				X				
Former Power Plant, Building T-1451	X	X	X	X		X	X		X	X				
GCI Compound, UST GCI-1	X	X	X	X		X	X		X	X				
Housing Area (Arctic Acres)	X	X	X	X		X	X		X	X				
MAUW Compound, UST 24000-A[m]				X		X				X				
Mount Moffett Power Plant 5 (USTs 10574 through 10577)				X		X				X				
NMCB Building Area, T-1416 Expanded Area	X	X	X	X		X	X		X	X		X	X	X
NORPAC Hill Seep Area	X	X	X	X		X	X		X	X			X	
ROICC Contractor's Area (UST ROICC 7)							X			X				
ROICC Contractor's Area (UST ROICC 8)[m]	X	X	X	X		X			X	X				
Runway 5-23 Avgas Valve Pit	X	X	X	X		X	X		X	X				
SA 73/SWMU 58, Heating Plant 6	X	X	X	X		X	X		X	X				
SA 78, Old Transportation Building USTs	X	X	X	X		X	X		X	X				
SA 79, Main Road Pipeline			X				X			X			X	
SA 80, Steam Plant 4, USTs 27089 and 27090	X	X	X	X		X	X		X	X				
SA 82, P-80/P-81 Buildings	X	X		X		X	X		X	X				
SA 88, P-70 Energy Generator, UST 10578	X	X		X		X	X		X	X				

Institutional Controls, Engineering Controls, and Operations and Maintenance for OU A Sites

Site Name	Institutional Controls					Engineering Controls	Operations and Maintenance							
	Land Use Restrictions[a]	Equitable Servitude[b]	Groundwater Restrictions[c]	Soil Excavation Restrictions[d]	Fishing Advisory[e]	Signage	Comprehensive Monitoring[j]	Education[f]	Site/Remedy Condition Inspections and Reporting[g]	Sign Inspection[h]	Soil Cover Inspections[i]	Free-Product Monitoring and Recovery	Visual Inspection[k]	Treatment Systems[1]
South of Runway 18-36 Area	X	X	X	X		X	X		X	X		X	X	X
SWMU 14, Old Pesticide Disposal Area*	X	X	X	X		X	X		X	X				
SWMU 15, Future Jobs/DRMO*	X	X	X	X		X	X		X	X				
SWMU 17, Power Plant 3 Area*	X	X	X	X		X	X		X	X				
SWMU 60, Tank Farm A	X	X	X	X		X	X		X	X			X	
SWMU 61, Tank Farm B	X	X	X	X		X	X		X	X			X	
SWMU 62, New Housing Fuel Leak	X	X	X	X		X	X		X	X		X	X	X
Tanker Shed, UST 42494	X	X	X	X		X	X		X	X				
Yakutat Hangar, UST T-2039-A	X	X	X	X		X			X	X				
Downtown Area Groundwater*	X	X	X	X			X	X	X					

[a]Land Use Restrictions are required to ensure that the land will never be used in a way inconsistent with the land use assumptions set forth in the Adak Island RODs.
[b]Land use restrictions/prohibitions have been included in the Interim Conveyance.
[c]The Downtown groundwater is restricted from domestic use.
[d]Excavation notification is required at all sites. Excavation is prohibited at the landfills and sites with a soil cover.
[e]Fishing advisory to recommend limiting subsistence consumption of bottom fish and mussels; fact sheets on the advisory available to City of Adak residents.
[f]Education Program (required for shellfish/fishery advisory and for ordnance hazards).
[g]Inspection and reporting of institutional controls annually, or as appropriate. Assess the need to take additional action or to reduce controls, as appropriate. A review of these sites will be reported every five years. The Downtown Area groundwater will be inspected by driving existing roads for evidence of domestic wells in use.
[h]Place and annually inspect signage for landfills.
[i]Annually inspect soil covers to ensure they remain intact.
[j]Comprehensive monitoring is conducted annually.
[k]Visual inspection of adjacent shoreline and surface water for petroleum seeps and sheens.
[1]Treatment systems installed as part of final remedies selected for the site.

Notes:
*CERCLA and petroleum institutional controls apply
**CERCLA landfill closures
avgas - aviation gasoline
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
DRMO - Defense Reutilization Marketing Office
GCI - General Communication Inc.
PCB - polychlorinated biphenyl
ROICC - resident officer in charge of construction
SA - source area
SWMU - solid waste management unit
UST - underground storage tank

APPENDIX B

Interview Responses

Agency

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 2 Interview – Regulatory/Advisory Agency
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Mr. Cora
Title: Remedial Project Manager
Organization: US EPA
Contact made by: JoAnn Grady
Response type: Email
Date: November 19, 2010

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses or public access to lands that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decisions documents for the petroleum sites?

   Response: Not a change in land usage, but concerns with property owner's commitment to Land Usage Controls.

2. Do you feel well informed about site activities at OU A, OU B-1, and the petroleum sites?

   Response: Yes

3. To the best of your knowledge, since the end of 2005, have there been any new scientific findings that relate to potential site risks and that might call into question the protectiveness of the remedies for OU A, OU B-1, or the petroleum sites? Have there been any changes to the ARARs upon which the remedy decision was based?

   Response: As of 01/23/2006 the maximum contaminant level of arsenic in drinking water is 10.0 µg/L.

4. Are you aware of any changes in site conditions that you feel may impact the protectiveness of the remedies selected in the RODs or decision documents?

   Response: No

5. Since the end of 2005, have there been any complaints, violations, or other incidents related to OU A, OU B-1, or the petroleum sites that required a

response by your office? If so, please provide details of the events and results of the responses.

Response: There was a large petroleum spill that ADEC/USGC responded to. Implementation of work at OU B-1 was not done pursuant to the approved work plans. This issue has not been resolved and may have implications for concluding the Remedial Action was completed successfully. The landowner/city have been less than consistent in adhering to land use controls (trenching done in areas with “NO DIGGING” signs, for example).

6. Are you aware of any community concerns regarding implementation of the remedies at OU A, OU B-1, or the petroleum sites? If so, please give details.

   Response: TAC representative on the RAB complained about land use controls preventing the usage of land. There was no specific control or parcel of land identified.

7. Do you have any suggestions regarding implementation of the remedies (including institutional controls)? If so, please give details.

   Response: Maintain vigilant oversight of land use control adherence.

8. Do you have any suggestions for changes in how monitoring of the remedies is being conducted?

   Response: Increase of on-island real time monitoring and maintaining institutional knowledge of monitoring procedures (i.e., location of wells, frequency of monitoring, trigger points, report preparation, etc.).

9. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 2 Interview – Regulatory/Advisory Agency
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Ms. Dooley
Title: Environmental Specialist
Organization: ADEC
Contact made by: JoAnn Grady
Response type: Email
Date: 2010

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses or public access to lands that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decisions documents for the petroleum sites?

   Response: No.

2. Do you feel well informed about site activities at OU A, OU B-1, and the petroleum sites?

   Response: No.

3. To the best of your knowledge, since the end of 2005, have there been any new scientific findings that relate to potential site risks and that might call into question the protectiveness of the remedies for OU A, OU B-1, or the petroleum sites? Have there been any changes to the ARARs upon which the remedy decision was based?

   Response: 18 AAC 75 was amended as of October 2008.

4. Are you aware of any changes in site conditions that you feel may impact the protectiveness of the remedies selected in the RODs or decision documents?

   Response: The increasing levels of DRO observed in the groundwater call for further action than just the selected MNA remedy. The nearby surface water of the East Canal is impacted and the increasing numbers of boom used to halt migration does not seem to be keeping up with the contamination.

5. Since the end of 2005, have there been any complaints, violations, or other incidents related to OU A, OU B-1, or the petroleum sites that required a response by your office? If so, please provide details of the events and results of the responses.

Response: Not to my knowledge.

6. Are you aware of any community concerns regarding implementation of the remedies at OU A, OU B-1, or the petroleum sites? If so, please give details.

   Response: No.

7. Do you have any suggestions regarding implementation of the remedies (including institutional controls)? If so, please give details.

   Response: No.

8. Do you have any suggestions for changes in how monitoring of the remedies is being conducted?

   Response: Currently a team has been created separate from the Five Year Review to look at the long term monitoring of petroleum sites and to optimize these efforts. Ideally within the next year the team will sort through the various sites undergoing monitoring and be able to form a more efficient and effective monitoring and remediation program.

9. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 2 Interview – Regulatory/Advisory Agency
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Mr. Warren
Title: EPS IV, ADAK RPM
Organization: ADEC
Contact made by: JoAnn Grady
Response type: Email
Date: 2011

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses or public access to lands that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decisions documents for the petroleum sites?

   Response: No I am not aware of any changes in land use that would affect the ROD's or Decision Documents. There are on-going concerns regarding the adequacy of the Institutional Control program to prevent contact with contaminants but recent efforts by Justin Peach (Navy) have greatly improved the program.

2. Do you feel well informed about site activities at OU A, OU B-1, and the petroleum sites?

   Response: Yes I am well informed on site activities at OUA and the Petroleum sites. However ADEC was recently excluded from weekly QC meetings during the 2009 field season and was not provided Non-Conformance Report (NCR) documentation in a timely manner throughout that field season. ADEC believes this lack of coordination prevented timely resolution of identified QC issues. This coordination issue has persisted through the OUB-2 FS and the OUB-1 AAR which are both still unacceptable to ADEC.

3. To the best of your knowledge, since the end of 2005, have there been any new scientific findings that relate to potential site risks and that might call into question the protectiveness of the remedies for OU A, OU B-1, or the petroleum sites? Have there been any changes to the ARARs upon which the remedy decision was based?

Response: ADEC revised contaminated Sites regulations (18 AAC 75) on January 2009.

4. Are you aware of any changes in site conditions that you feel may impact the protectiveness of the remedies selected in the RODs or decision documents?

   Response: There are environmental housekeeping issues (leaking drums, oil stains, etc.) at several sites including SWMU 15, SWMU 17, SWMU 55, and others. The Navy has documented this in the annual IC reports and ADEC/EPA are working with the landowner to address these issues.

5. Since the end of 2005, have there been any complaints, violations, or other incidents related to OU A, OU B-1, or the petroleum sites that required a response by your office? If so, please provide details of the events and results of the responses.

   Response: There have been several incidents regarding discoveries of UXO/DMM. During recent Spill Response activities (release from tank farm) a case of blasting caps was identified that required EOD response. It took several weeks to get Ft. Richardson to agree to respond. We believe that this issue was resolved and timely response will be provided by Ft. Richardson EOD in the future. However another incident has not occurred to test system improvements. There was also an incident where the property owner hired a salvage contractor to recover metal from the former installation. The contractor released transformer fluids to the ground and destroyed IC signs and monitoring wells. Once notified by Navy personnel of what was occurring the landowner was contacted and salvage activities ceased. Signs have since been repaired.

6. Are you aware of any community concerns regarding implementation of the remedies at OU A, OU B-1, or the petroleum sites? If so, please give details.

   Response: I think the primary concern is that the Navy follow through and clear the area around Lake Andrew (Parcel 4) so the resident can re-gain access to the lake. The Navy has also addressed resident concerns about several large diameter borings in the downtown area. These were a safety concern and have been decommissioned thereby removing the threat.

7. Do you have any suggestions regarding implementation of the remedies (including institutional controls)? If so, please give details.

   Response: and Monitoring Optimization has been recently initiated and we await the recommendations from this group.

8. Do you have any suggestions for changes in how monitoring of the remedies is being conducted?

   Response: Remedy and Monitoring Optimization has been recently initiated and we await the recommendations from this group. Better coordination with ADEC on the OUB1 and OUB2 projects is required to ensure regulatory concurrence on key documents.

9. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No

Community

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 3 Interview – Community Member
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: (b) (6) [redacted]
Title: City Clerk
Organization: City of Adak
Contact made by: JoAnn Grady
Response type: Email
Date: December 1, 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: No.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: Slowly decreasing in volume.

3. What effects on the community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: Increased revenue from the additional people here.

4. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: None.

5. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to environmental cleanup or ordnance? If so, please provide details of the events and results of the responses.

   Response: None.

6. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human

health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

Response: Contractors could better inform the public as to their on going efforts.

7. Are you satisfied with the level and quality of information provided to the Restoration Advisory Board (RAB) through RAB meetings, associated presentations, and by way of the Adak Update website?

   Response: I don't believe that the public ever learns what came up in any RAB meeting.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 3 Interview – Community Member
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: (b) (6)
Title: Volunteer
Organization: Sierra Club/Alaska
Contact made by: JoAnn Grady
Response type: Email
Date: November 12, 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: Reasonably so – still think need background document links and full maps with all presentations to help connect to previous work and to see what remains.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: Getting better slowly; that is, more is being done more completely, particularly the UXO "issue."

3. What effects on the community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: I've not observed any as I've not been on island during the last 5 years; have listened to reports from the community.

4. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: Lack of background; what has gone on before; where to find underlying, foundational reports and documents; clarity about process – that is, what study has to be completed before work, what consultation looks like; how to be hired; keeping lines of communications ongoing when community members leave/arrive, change positions within local government, corporation; regular briefings about process and progress.

5. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to environmental cleanup or ordnance? If so, please provide details of the events and results of the responses.

   Response: No, but then again, I've not been on island during that time.

6. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: Institutional controls need to robust; that is, signs aren't enough. Need regular presentations at community events, community meetings, not just when required or there's a change.

7. Are you satisfied with the level and quality of information provided to the Restoration Advisory Board (RAB) through RAB meetings, associated presentations, and by way of the Adak Update website?

   Response: Website is getting better; info for meetings is rather "thin;" that is, background/underlying document links missing, maps often not provided, where particular work fits into overall progress and process.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 3 Interview – Community Member
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: (b) (6)
Title: RAB Member
Organization: Adak Community
Contact made by: JoAnn Grady
Response type: Email
Date: December 5, 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: Yes.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: It is coming along, but still more to do.

3. What effects on the community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: Nothing in particular.

4. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: No.

5. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to environmental cleanup or ordnance? If so, please provide details of the events and results of the responses.

   Response: No.

6. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human

health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

Response: There is still a lot of fuel coming out of the ground.

7. Are you satisfied with the level and quality of information provided to the Restoration Advisory Board (RAB) through RAB meetings, associated presentations, and by way of the Adak Update website?

Response: Yes.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 3 Interview – Community Member
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: (b) (6) [redacted]
Title: RAB Member
Organization: Adak Community
Contact made by: JoAnn Grady
Response type: Email
Date: 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: Yes, from the mailings and information provided at the meetings I feel adequately informed as a long-distance RAB member.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: I don't feel that I can make an informed judgment on this, having not visited the site or community since cleanup began, although it sounds adequate from the reports.

3. What effects on the community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: I don't feel that I can make an informed judgment on this, having not visited the site or community since cleanup began.

4. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: No; however, I have not visited the site or community since cleanup began.

5. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to environmental cleanup or ordnance? If so, please provide details of the events and results of the responses.

Response: No; however, I have not visited the site or community since cleanup began.

6. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No.

7. Are you satisfied with the level and quality of information provided to the Restoration Advisory Board (RAB) through RAB meetings, associated presentations, and by way of the Adak Update website?

   Response: Yes.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 3 Interview – Community Member
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: (b) (6)
Title: RAB Member
Organization: Adak Community
Contact made by: JoAnn Grady
Response type: Email
Date: December 20, 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: Yes

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: For the most part it has been beneficial. The UXO remediation is somewhat overdone, digging two feet in the ground for metallic objects. I doubt that just walking on these areas would be hazardous.

3. What effects on the community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: The contractors have spent money here and that helps the community.

4. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: I haven't heard of any concerns.

5. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to environmental cleanup or ordnance? If so, please provide details of the events and results of the responses.

   Response: I haven't heard of any incidents.

6. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No

7. Are you satisfied with the level and quality of information provided to the Restoration Advisory Board (RAB) through RAB meetings, associated presentations, and by way of the Adak Update website?

   Response: Yes

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 3 Interview – Community Member
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: (b) (6)
Title: RAB Member
Organization: Adak Community
Contact made by: JoAnn Grady
Response type: Email
Date: 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: Yes.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: Good except for EODT.

3. What effects on the community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: Positive except need to use more on island services and supplies.

4. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: No.

5. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to environmental cleanup or ordnance? If so, please provide details of the events and results of the responses. NO

   Response: No.

6. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human

health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

Response: Of all the contractors that come here Tetra Tech fits in with and supports the town the best, they always have the most professional people.

7. Are you satisfied with the level and quality of information provided to the Restoration Advisory Board (RAB) through RAB meetings, associated presentations, and by way of the Adak Update website?

Response: Yes.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 3 Interview – Community Member
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individuals Contacted: Mr. Delehanty and Mr. Webber
Title: Refuge Manager and Deputy Refuge Manager, respectively
Organization: Alaska Maritime National Wildlife Refuge, USFWS
Contact made by: JoAnn Grady
Response type: Email
Date: November 22, 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: Yes, the USFWS has been an active participant in most relevant meetings regarding the Navy's activities during this period. We have had good communications with the Navy and all of our questions are answered promptly.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: It is a long process due to the challenges of scale, conditions on the island, and limitations of technology. However, it is important to get Adak as clean as possible now because portions of this island are an important part of the National Wildlife Refuge System and also the lands of the people of the Aleut Corporation.

3. What effects on the community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: No specific comments other than acknowledging that the clean-up has been an important source of income for island residents.

4. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: Nothing to report.

5. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to environmental

cleanup or ordnance? If so, please provide details of the events and results of the responses.

Response: We are aware of one entry into a closed area by scientists working under a USFWS Special Use Permit. Entry to this area was not allowed under the permit. We discussed this situation with the permittee, and have taken steps to reduce the risk of this happening again. The Navy is aware of this occurrence.

6. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: We have concerns over areas that cannot be kept clean of munitions, such as the Andrew Lake Seawall site, because of regular deposition of new materials from as yet poorly understood offshore "reservoirs/stockpiles." We are also concerned that there are numerous exceptions to the clean-up capabilities and plans for OUB-1, most notable of which are areas in water, or that fill with water when disturbed, and on modest to steep slopes. Despite the fact that the goal for this area is habitat for a National Wildlife Refuge, and not developed or as a heavily used human landscape, we remain very concerned about the extent of unexploded ordinance and associated contaminants that will be left in the environment when the clean-up, as planned, is completed.

   Some remediation projects/facilities are not removed or consolidated after the project completion. For example, free product petroleum recovery connexes on Adak and, particularly, USFWS leased land (SWMU 62) are not maintained and should be removed if project is complete. Aboveground equipment in this area includes recovery pumps in a connex and large fuel tank.

7. Are you satisfied with the level and quality of information provided to the Restoration Advisory Board (RAB) through RAB meetings, associated presentations, and by way of the Adak Update website?

   Response: In general yes, although we have been unable to regularly attend RAB meetings in 2010, so are somewhat removed from the part of the process.

Navy

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 1 Interview – Navy Personnel
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Ms. Ginn
Title: Environmental Restoration Supervisor
Organization: NAVFAC NW
Contact made by: JoAnn Grady
Response type: Email
Date: December 9, 2010

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses, public access to lands, or site conditions that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decision documents for the petroleum sites?

   Response: No.

2. Are you aware of concerns from the local community regarding implementation or overall environmental protectiveness of the selected remedies for OU A, OU B-1, and the petroleum sites?

   Response: During RAB meetings the community had previously expressed concerns with community outreach and dissemination of information regarding Navy response actions. In subsequent RAB meetings the community Co-Chair indicated she was pleased with the effort the Navy had expended to improve communication and outreach for the munitions awareness.

3. Has there continued to be a regular program of on-site inspection and operation, maintenance, and monitoring (OMM) since 2005?

   Response: Yes, annual inspection, monitoring and maintenance activities have been conducted at the site consistent with the requirements.

4. Have there been any unexpected difficulties associated with OMM since 2005?

Response: The Navy identified erosion at some site landfills during routine monitoring. These areas were subsequently repaired to maintain site protectiveness.

In one instance the community expressed confusion in the response and notification requirements for an incidental munitions find. The community contacted the Navy and the process, contact Fort Richardson EOC unit, was provided by the Remedial Project Manager. Response to the community from Fort Richardson indicated there were some operational changes within Fort Richardson the required update to the notification processes.

The Navy subsequently revised and updated the munitions contact information to ensure clarity. The Navy also clarified the notification process with Fort Richardson and the responding EOD units.

5. Have there been any substantial changes to inspection and OMM requirements or activities? If so, do you feel that these changes have impacted the protectiveness of the remedies selected in the RODs?

   Response: Update to the munitions awareness procedure.

6. Are you aware of any violations of the institutional controls requirements at any of the OUs that could impact the protectiveness of this component of the remedy (e.g., unauthorized excavation, drilling of water supply wells, trespass into prohibited areas, handling of ordnance items)?

   Response: No.

7. What measures have been taken to implement institutional controls required by the RODs?

   Response: Repair projects, updates to planning documents, revisions to awareness documentation.

8. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 1 Interview – Navy Personnel
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Mr. May
Title: Project Manager
Organization: NAVFAC NW
Contact made by: Joann Grady
Response type: Email
Date: 2010

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses, public access to lands, or site conditions that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decision documents for the petroleum sites?

   Response: 1. Dredging in the small boat harbor has occurred during last field season and it would appear to me that this activity could significantly affect fin and shell fish that use this area. 2. A large quantity of fuel spilled during the transfer of fuel between a tanker ship and an AST. Unknown quantities of fuel were discharged into the small boat harbor.

2. Are you aware of concerns from the local community regarding implementation or overall environmental protectiveness of the selected remedies for OU A, OU B-1, and the petroleum sites?

   Response: Only those documented in the minutes of the last three RABs.

3. Has there continued to be a regular program of on-site inspection and operation, maintenance, and monitoring (OMM) since 2005?

   Response: As far as I know we have sent contractors to Adak to perform land use control inspections and monitoring.

4. Have there been any unexpected difficulties associated with OMM since 2005?

   Response: Not that I know of.

5. Have there been any substantial changes to inspection and OMM requirements or activities? If so, do you feel that these changes have impacted the protectiveness of the remedies selected in the RODs?

Response: I'm not aware of major changes.

6. Are you aware of any violations of the institutional controls requirements at any of the OUs that could impact the protectiveness of this component of the remedy (e.g., unauthorized excavation, drilling of water supply wells, trespass into prohibited areas, handling of ordnance items)?

   Response: I have heard that there has been digging in the downtown area without permits.

7. What measures have been taken to implement institutional controls required by the RODs?

   Response: There is a land use control plan published and made public. In addition, the Navy has an extensive public awareness program that has greatly improved within the last year or so.

8. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No. I think that the Navy, ADEC, and TAC are doing a great job of working hard to protect human health and the environment on Adak.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 1 Interview – Navy Personnel
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted:	Mr. Peach, PG, PE
Title:	Project Manager
Organization:	NAVFAC NW
Contact made by:	JoAnn Grady
Response type:	Email
Date:	November 12, 2010

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses, public access to lands, or site conditions that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decision documents for the petroleum sites?

   Response: More clean-up work has been conducted by the Navy, in particular in the areas of munitions and removal of petroleum from pipelines, that should serve to provide further protection of human health and the environment. In the last two years, the Navy has renewed efforts in Institutional Controls and public outreach that should also serve to increase safety through improved public awareness.

2. Are you aware of concerns from the local community regarding implementation or overall environmental protectiveness of the selected remedies for OU A, OU B-1, and the petroleum sites?

   Response: Anecdotally, I had heard of public concern regarding erosion on Mt Moffett related to vehicle ruts.

   I had discussions with the RAB co-chair on island regarding how long monitoring in Kuluk Bay would be likely to go on, and whether the levels were increasing or decreasing.

   I have had numerous discussions with a broad range of personnel regarding the IC and education awareness program. These were incorporated, most recently, into the generation of new IC materials forisland residents and visitors.

3. Has there continued to be a regular program of on-site inspection and operation, maintenance, and monitoring (OMM) since 2005?

   Response: Yes.

4. Have there been any unexpected difficulties associated with OMM since 2005?

   Response: Vandalism and unauthorized access to closed areas, for instance tire tracks on landfill caps, fences being damaged.

   Discrepancy on who maintains responsibility for new releases, potentially from current generation of waste oil or oil storage.

5. Have there been any substantial changes to inspection and OMM requirements or activities? If so, do you feel that these changes have impacted the protectiveness of the remedies selected in the RODs?

   Response: I think the process is continually tweaked and improved, both formally and informally while personnel are on-island.

6. Are you aware of any violations of the institutional controls requirements at any of the OUs that could impact the protectiveness of this component of the remedy (e.g., unauthorized excavation, drilling of water supply wells, trespass into prohibited areas, handling of ordnance items)?

   Response: Trespass into prohibited areas, specifically climbing Mt Moffett and along the Andrew lake Road in Parcel 4.

   Unauthorized excavation with associated release of contaminants during 2008 during an effort to reclaim copper from transformers and buried wire.

7. What measures have been taken to implement institutional controls required by the RODs?

   Response: Annual inspections, regular repair efforts, on-island interviews and presentations, seawall sweeps, excavation permits.

8. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 1 Interview – Navy Personnel
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Mr. Vernik
Title: Remedial Project Manager
Organization: NAVFAC NW
Contact made by: JoAnn Grady
Response type: Email
Date: 2010

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses, public access to lands, or site conditions that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decision documents for the petroleum sites?

   Response: Poor housekeeping and waste management at various sites by the current land owner may impact sites identified in the decision documents and may pose a risk to residents, ecological receptors and the environment.

2. Are you aware of concerns from the local community regarding implementation or overall environmental protectiveness of the selected remedies for OU A, OU B-1, and the petroleum sites?

   Response: No.

3. Has there continued to be a regular program of on-site inspection and operation, maintenance, and monitoring (OMM) since 2005?

   Response: Yes, annual inspections and OMM are occurring.

4. Have there been any unexpected difficulties associated with OMM since 2005?

   Response: I am not aware of any difficulties with OMM since 2005.

5. Have there been any substantial changes to inspection and OMM requirements or activities? If so, do you feel that these changes have impacted the protectiveness of the remedies selected in the RODs?

Response: There have been no substantial changes to the program that I am aware of.

6. Are you aware of any violations of the institutional controls requirements at any of the OUs that could impact the protectiveness of this component of the remedy (e.g., unauthorized excavation, drilling of water supply wells, trespass into prohibited areas, handling of ordnance items)?

   Response: there was evidence in 2009 that some excavation or soil disturbance occurred during copper wire recovery by others. There have also been signs of entry into restricted areas of the island. Engineering control and IC repairs have hopefully reduced or eliminate the potential for this to occur in the future.

7. What measures have been taken to implement institutional controls required by the RODs?

   Response: ICs and engineering controls have been implemented at all sites as required. Those controls are inspected annually and repaired or upgraded as needed.

8. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: Current poor housekeeping practices by the current landowners at various sites could potentially impact soil and groundwater in areas where cleanup has been completed or monitoring is being conducted and may pose a risk to residents, ecological receptors, and the environment.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 1 Interview – Navy Personnel
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Mr. Wicklein
Title: Adak Lead Remedial Project Manager
Organization: Naval Facilities Engineering Command
Contact made by: JoAnn Grady
Response type: Email
Date: November 19, 2010

Summary of Communication

1. Since the end of 2005, are you aware of any changes in land uses, public access to lands, or site conditions that you feel may impact the protectiveness of the remedies selected in the RODs (interim ROD [1995], final OU A ROD [2000], and final OU B-1 ROD [2001]) or the decision documents for the petroleum sites?

Response: Interim ROD (1995) – no

OUA ROD – there are two sites - T-1415 (East Canal) and SWMU-61 (Sweeper Creek) - that currently have contaminated groundwater that is or could soon affect surface water. These areas are being evaluated to determine whether their remedies need adjustment. In addition, there were some integrity issues with the Metals landfill cap. These issues have been addressed.

OUB-1 ROD – Although not required, the Navy added and has maintained a gate at Parcel 4 that is much harder to damage and pass in an effort to deter the public from entering. In addition, the Navy added signs at Parcel 4 to warn the public of the hazards and to deter them from trespassing.

Decision documents for the petroleum sites – no.

2. Are you aware of concerns from the local community regarding implementation or overall environmental protectiveness of the selected remedies for OU A, OU B-1, and the petroleum sites?

Response: OUA – no.

OUB-1 – no.

Petroleum sites – no.

3. Has there continued to be a regular program of on-site inspection and operation, maintenance, and monitoring (OMM) since 2005?

   Response: Yes.

4. Have there been any unexpected difficulties associated with OMM since 2005?

   Response: No.

5. Have there been any substantial changes to inspection and OMM requirements or activities? If so, do you feel that these changes have impacted the protectiveness of the remedies selected in the RODs?

   Response: For the OUB-1 ROD, more intensive efforts to educate the public concerning on-island munitions-related hazards have increased the protectiveness of the remedy. Efforts to ensure the munitions and explosives of concern (MEC) discovery process is sound and implementable have increased the protectiveness of the remedy.

6. Are you aware of any violations of the institutional controls requirements at any of the OUs that could impact the protectiveness of this component of the remedy (e.g., unauthorized excavation, drilling of water supply wells, trespass into prohibited areas, handling of ordnance items)?

   Response: There have been a few instances within this reporting period where the ICs were not followed. These were related to unauthorized excavations. These did not impact the overall protectiveness of the remedies to the point where the remedy has failed.

   ICs reduce exposure risk and protect human health, and are an integral part of the selected remedial action for areas with known or suspected residual contamination. ICs are implemented to ensure the selected remedial actions continue to meet remedial action objectives.

   As with other state educational plans that address public safety and health issues, involvement and buy-in by the community are critical to the success of the educational awareness program. Public awareness about the hazards that exist on Adak associated with residual contamination is raised by informing and involving the public in a variety of ways.

   The intensity of Navy efforts to educate the public, and to ensure there is a sound and implementable MEC discovery process, has increased in this reporting period.

7. What measures have been taken to implement institutional controls required by the RODs?

   Response: Within this reporting period, the Navy has:

   - Increased the amount of educational materials distributed to the public.
   - Increased the diversity and breadth of materials being distributed to the public.
   - Updated the educational awareness video.
   - Added equipment to the Airport where the educational awareness video is played before and after each flight.
   - Increased the number of visits by Navy staff thereby increasing the touch-points for the educational awareness program.
   - Although not required, the Navy added and has maintained a gate at Parcel 4 that is much harder to damage and pass in an effort to deter the public from entering. In addition, the Navy has installed additional signs at Parcel 4 to warn the public of the hazards and to deter them from trespassing.
   - Evaluated and revised educational materials to ensure they are accurate, including contact information.
   - Worked with the EOD units at Fort Richardson and Whidbey Island to ensure the MEC discovery process is sound and implementable.
   - Increased Navy attention (responsiveness) to, and public awareness of, the excavation permit\notification process.
   - Reinforced institutional controls requirements with The Aleut Corporation and the City of Adak.

8. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No.

Property Owner

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 4 Interview – Land Owner
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Ms. Iles
Title: Statewide Aviation Leasing Chief
Organization: Alaska DOT&PF
Contact made by: JoAnn Grady
Response type: Email
Date: 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: No, but I have just recently started receiving information; I became Statewide Leasing Chief in spring of 2010.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: I do not have enough information to answer the question; I do know that meetings have been held and some information is available.

3. Are you aware of any changes in site conditions (such as changes in land use or public access to lands) that you feel may impact the protectiveness of the remedies selected in the Records of Decision (RODs) or petroleum site decision documents?

   Response: None of which I am aware.

4. What effects on land owners and the Adak community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: I have not been involved until recently.

5. Do you have any suggestions regarding implementation and monitoring of the remedies (including institutional controls)? If so, please give details.

   Response: Make concise, understandable data available on an up-to-date website and provide the site address to all interested parties.

6. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: No.

7. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to OU A, OU B-1, or the petroleum sites? If so, please provide details of the events and results of the responses.

   Response: No.

8. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: No – I am not informed enough at this point to provide comments or suggestions other than those already provided.

INTERVIEW RECORD FOR THIRD FIVE-YEAR REVIEW
2006 through 2010
Type 4 Interview – Land Owner
Operable Units A and B-1, and Petroleum Sites
Former Adak Naval Complex
Adak, Alaska

Individual Contacted: Mr. Smith
Title: Operations Manager
Organization: Aleut Real Estate, LLC
Contact made by: JoAnn Grady
Response type: Email
Date: 2010

Summary of Communication

1. Do you feel well informed about the environmental cleanup activities and progress at the former Adak Naval Complex, since the end of 2005?

   Response: Yes, but communications can be improved. For example, receiving binders of information can be overwhelming and the information is after the fact. Perhaps, telephone conferences to go over the materials would help.

2. What is your overall impression of the on-going environmental cleanup activities, especially since the end of 2005?

   Response: The clean up seems to be moving very slow. Institutional controls are an easy way out and may not be in the best interest of the landowner and people living on Island. Also, we are not involved in the dialogue on options going forward.

3. Are you aware of any changes in site conditions (such as changes in land use or public access to lands) that you feel may impact the protectiveness of the remedies selected in the Records of Decision (RODs) or petroleum site decision documents?

   Response: No.

4. What effects on land owners and the Adak community have you observed as a result of on-going remedy implementation, especially since the end of 2005?

   Response: For us, the landowner, we are unable to move forward with development at desired levels.

5. Do you have any suggestions regarding implementation and monitoring of the remedies (including institutional controls)? If so, please give details.

   Response: Involve the landowner in the process to determine appropriate levels of control. This is much better than informing us after the fact and not communicating with us in advance. As the landowner that has government/environmental contracting capabilities, we would like to be considered as part of the solution.

6. Are you aware of any community concerns regarding implementation of the remedies? If so, please give details.

   Response: Not specifically, but the sense is similar to ours.

7. Since the end of 2005, are you aware of any events, incidents, or activities (e.g., vandalism, trespassing, or emergency response) related to OU A, OU B-1, or the petroleum sites? If so, please provide details of the events and results of the responses.

   Response: Nothing we can think of now regarding OU A, OUB-1 and the Petroleum sites.

8. Do you have any other comments, concerns, or suggestions regarding the effectiveness of the cleanup measures implemented so far in protecting human health and the environment at OU A, OU B-1, or the petroleum sites at the former Adak Naval Complex?

   Response: See responses above. Involve the landowner in any active way.

APPENDIX C

Analytical Data Results

Summary of Analytical Results 2006 through 2010
Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
Antenna Field, USTs ANT-1, ANT-2, ANT-3, and ANT-4	ANT-601	GW	TPH	TPH-Diesel	ug/l	4300	1800Y	2100Y	1400Y	2100Y
Area 303	03-107	GW	VOA	Benzene	ug/l			18DJ	12D	
Area 303	03-107	GW	VOA	Ethylbenzene	ug/l			1000D	890D	
Area 303	03-107	GW	VOA	m,p-Xylene	ug/l			2000D	1700D	
Area 303	03-107	GW	VOA	o-Xylene	ug/l			560D	370D	
Area 303	03-107	GW	VOA	Toluene	ug/l			690D	620D	
Area 303	03-107	GW	VOA	Xylenes	ug/l			2560D	2070D	
Area 303	MW-303-17	GW	TPH	TPH-Gasoline	ug/l			100U	100U	
Area 303	MW-303-17	GW	VOA	Benzene	ug/l			0.50U	0.50U	
Area 303	MW-303-17	GW	VOA	Ethylbenzene	ug/l			0.50U	0.50U	
Area 303	MW-303-17	GW	VOA	m,p-Xylene	ug/l			0.50U	0.50U	
Area 303	MW-303-17	GW	VOA	o-Xylene	ug/l			0.50U	0.50U	
Area 303	MW-303-17	GW	VOA	Toluene	ug/l			0.50U	0.50U	
Area 303	MW-303-33	GW	VOA	Benzene	ug/l			1	0.82	
Area 303	MW-303-33	GW	VOA	Ethylbenzene	ug/l			0.16J	0.11J	
Area 303	MW-303-33	GW	VOA	m,p-Xylene	ug/l			4.9	2.9	
Area 303	MW-303-33	GW	VOA	o-Xylene	ug/l			0.78	0.66	
Area 303	MW-303-33	GW	VOA	Toluene	ug/l			1.3U	0.50U	
Area 303	MW-303-33	GW	VOA	Xylenes	ug/l			5.68	3.56	
Area 303	MW-303-34	GW	VOA	Benzene	ug/l			2.8J	2.3	
Area 303	MW-303-34	GW	VOA	Ethylbenzene	ug/l			2.6J	1.7	
Area 303	MW-303-34	GW	VOA	m,p-Xylene	ug/l			14J	12	
Area 303	MW-303-34	GW	VOA	o-Xylene	ug/l			3.6J	2.9	
Area 303	MW-303-34	GW	VOA	Toluene	ug/l			3.3UJ	1.3U	
Area 303	MW-303-34	GW	VOA	Xylenes	ug/l			17.6J	14.9	
Former Power Plant Building T-1451	01-118	GW	TPH	TPH-Diesel	ug/l	8700	7000Y	9300Y	8700Y	7100Y
Former Power Plant Building T-1451	01-118	GW	TPH	TPH-Heavy Fraction/Oil	ug/l	2000U	660L	890L		
Former Power Plant Building T-1451	01-150	GW	TPH	TPH-Diesel	ug/l	1400	1100Y	3400Y	1100Y	1300Y
Former Power Plant Building T-1451	01-151	GW	SVOA	2-Methylnaphthalene	ug/l		2.7	4	8.9	9
Former Power Plant Building T-1451	01-151	GW	SVOA	Acenaphthene	ug/l		0.65	0.73	1	0.92
Former Power Plant Building T-1451	01-151	GW	SVOA	Acenaphthylene	ug/l		0.11U	0.15 U	0.25U	0.19Ui
Former Power Plant Building T-1451	01-151	GW	SVOA	Anthracene	ug/l		0.039	0.023	0.035	0.035
Former Power Plant Building T-1451	01-151	GW	SVOA	Benzo(a)anthracene	ug/l		0.020U	0.020 U	0.020 U	0.020U
Former Power Plant Building T-1451	01-151	GW	SVOA	Benzo(a)pyrene	ug/l		0.020U	0.020 U	0.0033J	0.020U
Former Power Plant Building T-1451	01-151	GW	SVOA	Benzo(b)fluoranthene	ug/l		0.020U	0.020 U	0.0041J	0.0031J
Former Power Plant Building T-1451	01-151	GW	SVOA	Benzo(g,h,i)perylene	ug/l		0.020U	0.020 U	0.020 U	0.020U
Former Power Plant Building T-1451	01-151	GW	SVOA	Benzo(k)fluoranthene	ug/l		0.020U	0.020 U	0.0030J	0.020U
Former Power Plant Building T-1451	01-151	GW	SVOA	Chrysene	ug/l		0.020U	0.020 U	0.020 U	0.020U
Former Power Plant Building T-1451	01-151	GW	SVOA	Dibenz(a,h)anthracene	ug/l		0.020U	0.020 U	0.0044J	0.020U
Former Power Plant Building T-1451	01-151	GW	SVOA	Fluoranthene	ug/l		0.015J	0.014 J	0.024	0.019J
Former Power Plant Building T-1451	01-151	GW	SVOA	Fluorene	ug/l		2.4	2.9	4	3.2
Former Power Plant Building T-1451	01-151	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l		0.020U	0.020 U	0.020 U	0.0038J
Former Power Plant Building T-1451	01-151	GW	SVOA	Naphthalene	ug/l		7.0	9.6	13D	12D
Former Power Plant Building T-1451	01-151	GW	SVOA	Phenanthrene	ug/l		1.7	1.3	1.4	1.1
Former Power Plant Building T-1451	01-151	GW	SVOA	Pyrene	ug/l		0.023	0.019 J	0.027	0.018J
Former Power Plant Building T-1451	01-151	GW	TPH	TPH-Diesel	ug/l	4100	3500Y	3400Y	3000Y	4600Y
Former Power Plant Building T-1451	EC-02	SED	TPH	TPH-Diesel	ug/kg				94000	
Former Power Plant Building T-1451	EC-02	SED	TPH	TPH-Gasoline	ug/kg				4200U	
Former Power Plant Building T-1451	EC-02	SED	TPH	TPH-Heavy Fraction/Oil	ug/kg				100000J	
Former Power Plant Building T-1451	EC-02	SED	VOA	Benzene	ug/kg				17U	
Former Power Plant Building T-1451	EC-02	SED	VOA	Ethylbenzene	ug/kg				17U	
Former Power Plant Building T-1451	EC-02	SED	VOA	m,p-Xylene	ug/kg				34U	
Former Power Plant Building T-1451	EC-02	SED	VOA	o-Xylene	ug/kg				17U	
Former Power Plant Building T-1451	EC-02	SED	VOA	Toluene	ug/kg				17U	

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Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
Former Power Plant Building T-1451	EC-02	SW	SVOA	2-Methylnaphthalene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Acenaphthene	ug/l				0.0087J	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Acenaphthylene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Anthracene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Benzo(a)anthracene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Benzo(a)pyrene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Benzo(b)fluoranthene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Benzo(g,h,i)perylene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Benzo(k)fluoranthene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Chrysene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Dibenz(a,h)anthracene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Fluoranthene	ug/l				0.0069J	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Fluorene	ug/l				0.013J	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Naphthalene	ug/l				0.037	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Phenanthrene	ug/l				0.027U	
Former Power Plant Building T-1451	EC-02	SW	SVOA	Pyrene	ug/l				0.021U	
Former Power Plant Building T-1451	EC-02	SW	TPH	TPH-Diesel	ug/l				160	
Former Power Plant Building T-1451	EC-02	SW	TPH	TPH-Gasoline	ug/l				65J	
Former Power Plant Building T-1451	EC-02	SW	VOA	Benzene	ug/l				0.41J	
Former Power Plant Building T-1451	EC-02	SW	VOA	Ethylbenzene	ug/l				2.3	
Former Power Plant Building T-1451	EC-02	SW	VOA	m,p-Xylene	ug/l				2	
Former Power Plant Building T-1451	EC-02	SW	VOA	o-Xylene	ug/l				0.29J	
Former Power Plant Building T-1451	EC-02	SW	VOA	Toluene	ug/l				0.9U	
Former Power Plant Building T-1451	EC-03	SED	SVOA	2-Methylnaphthalene	ug/kg				1.1J	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Acenaphthene	ug/kg				5.4	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Acenaphthylene	ug/kg				3.9U	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Anthracene	ug/kg				8.3	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Benzo(a)anthracene	ug/kg				1J	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Benzo(a)pyrene	ug/kg				3.9U	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Benzo(b)fluoranthene	ug/kg				1.5J	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Benzo(g,h,i)perylene	ug/kg				2.8J	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Benzo(k)fluoranthene	ug/kg				3.9U	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Chrysene	ug/kg				0.9J	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Dibenz(a,h)anthracene	ug/kg				3.9U	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Fluoranthene	ug/kg				5.1	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Fluorene	ug/kg				53	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg				1.3J	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Naphthalene	ug/kg				1J	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Phenanthrene	ug/kg				31	
Former Power Plant Building T-1451	EC-03	SED	SVOA	Pyrene	ug/kg				4	
Former Power Plant Building T-1451	EC-03	SED	TPH	TPH-Diesel	ug/kg				78000	
Former Power Plant Building T-1451	EC-03	SED	TPH	TPH-Gasoline	ug/kg				3600U	
Former Power Plant Building T-1451	EC-03	SED	TPH	TPH-Heavy Fraction/Oil	ug/kg				150000U	
Former Power Plant Building T-1451	EC-03	SED	VOA	Benzene	ug/kg				15U	
Former Power Plant Building T-1451	EC-03	SED	VOA	Ethylbenzene	ug/kg				15U	
Former Power Plant Building T-1451	EC-03	SED	VOA	m,p-Xylene	ug/kg				29U	
Former Power Plant Building T-1451	EC-03	SED	VOA	o-Xylene	ug/kg				15U	
Former Power Plant Building T-1451	EC-03	SED	VOA	Toluene	ug/kg				15U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	2-Methylnaphthalene	ug/l				0.077	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Acenaphthene	ug/l				0.019J	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Acenaphthylene	ug/l				0.0046J	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Benzo(a)anthracene	ug/l				0.02U	

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Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
Former Power Plant Building T-1451	EC-03	SW	SVOA	Benzo(a)pyrene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Benzo(b)fluoranthene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Benzo(g,h,i)perylene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Benzo(k)fluoranthene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Chrysene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Dibenz(a,h)anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Fluoranthene	ug/l				0.0063J	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Fluorene	ug/l				0.073	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Naphthalene	ug/l				0.13	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Phenanthrene	ug/l				0.031U	
Former Power Plant Building T-1451	EC-03	SW	SVOA	Pyrene	ug/l				0.0095J	
Former Power Plant Building T-1451	EC-03	SW	TPH	TPH-Diesel	ug/l				310	
Former Power Plant Building T-1451	EC-03	SW	TPH	TPH-Gasoline	ug/l				82J	
Former Power Plant Building T-1451	EC-03	SW	VOA	Benzene	ug/l				2.4	
Former Power Plant Building T-1451	EC-03	SW	VOA	Ethylbenzene	ug/l				3.1	
Former Power Plant Building T-1451	EC-03	SW	VOA	m,p-Xylene	ug/l				2.8	
Former Power Plant Building T-1451	EC-03	SW	VOA	o-Xylene	ug/l				0.39J	
Former Power Plant Building T-1451	EC-03	SW	VOA	Toluene	ug/l				1.1U	
Former Power Plant Building T-1451	EC-04	SED	TPH	TPH-Diesel	ug/kg				550000	
Former Power Plant Building T-1451	EC-04	SED	TPH	TPH-Gasoline	ug/kg				4100U	
Former Power Plant Building T-1451	EC-04	SED	TPH	TPH-Heavy Fraction/Oil	ug/kg				170000J	
Former Power Plant Building T-1451	EC-04	SED	VOA	Benzene	ug/kg				15U	
Former Power Plant Building T-1451	EC-04	SED	VOA	Ethylbenzene	ug/kg				15U	
Former Power Plant Building T-1451	EC-04	SED	VOA	m,p-Xylene	ug/kg				30U	
Former Power Plant Building T-1451	EC-04	SED	VOA	o-Xylene	ug/kg				15U	
Former Power Plant Building T-1451	EC-04	SED	VOA	Toluene	ug/kg				15U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	2-Methylnaphthalene	ug/l				0.076	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Acenaphthene	ug/l				0.029	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Acenaphthylene	ug/l				0.005J	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Benzo(a)anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Benzo(a)pyrene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Benzo(b)fluoranthene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Benzo(g,h,i)perylene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Benzo(k)fluoranthene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Chrysene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Dibenz(a,h)anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Fluoranthene	ug/l				0.0071J	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Fluorene	ug/l				0.14	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Naphthalene	ug/l				0.18	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Phenanthrene	ug/l				0.046U	
Former Power Plant Building T-1451	EC-04	SW	SVOA	Pyrene	ug/l				0.0098J	
Former Power Plant Building T-1451	EC-04	SW	TPH	TPH-Diesel	ug/l				240	
Former Power Plant Building T-1451	EC-04	SW	TPH	TPH-Gasoline	ug/l				72J	
Former Power Plant Building T-1451	EC-04	SW	VOA	Benzene	ug/l				2.1	
Former Power Plant Building T-1451	EC-04	SW	VOA	Ethylbenzene	ug/l				2.6	
Former Power Plant Building T-1451	EC-04	SW	VOA	m,p-Xylene	ug/l				2.5	
Former Power Plant Building T-1451	EC-04	SW	VOA	o-Xylene	ug/l				0.34J	
Former Power Plant Building T-1451	EC-04	SW	VOA	Toluene	ug/l				0.89U	
Former Power Plant Building T-1451	EC-05	SED	TPH	TPH-Diesel	ug/kg				660000	
Former Power Plant Building T-1451	EC-05	SED	TPH	TPH-Gasoline	ug/kg				76000	
Former Power Plant Building T-1451	EC-05	SED	TPH	TPH-Heavy Fraction/Oil	ug/kg				640000J	

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
Former Power Plant Building T-1451	EC-05	SED	VOA	Benzene	ug/kg				20UJ	
Former Power Plant Building T-1451	EC-05	SED	VOA	Ethylbenzene	ug/kg				110J	
Former Power Plant Building T-1451	EC-05	SED	VOA	m,p-Xylene	ug/kg				280J	
Former Power Plant Building T-1451	EC-05	SED	VOA	o-Xylene	ug/kg				46J	
Former Power Plant Building T-1451	EC-05	SED	VOA	Toluene	ug/kg				20UJ	
Former Power Plant Building T-1451	EC-05	SW	SVOA	2-Methylnaphthalene	ug/l				0.14	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Acenaphthene	ug/l				0.021	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Acenaphthylene	ug/l				0.0047J	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Benzo(a)anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Benzo(a)pyrene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Benzo(b)fluoranthene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Benzo(g,h,i)perylene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Benzo(k)fluoranthene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Chrysene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Dibenz(a,h)anthracene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Fluoranthene	ug/l				0.0098J	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Fluorene	ug/l				0.1	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l				0.02U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Naphthalene	ug/l				0.7	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Phenanthrene	ug/l				0.052U	
Former Power Plant Building T-1451	EC-05	SW	SVOA	Pyrene	ug/l				0.0099J	
Former Power Plant Building T-1451	EC-05	SW	TPH	TPH-Diesel	ug/l				200U	
Former Power Plant Building T-1451	EC-05	SW	TPH	TPH-Gasoline	ug/l				220	
Former Power Plant Building T-1451	EC-05	SW	VOA	Benzene	ug/l				1.8	
Former Power Plant Building T-1451	EC-05	SW	VOA	Ethylbenzene	ug/l				4.5	
Former Power Plant Building T-1451	EC-05	SW	VOA	m,p-Xylene	ug/l				12	
Former Power Plant Building T-1451	EC-05	SW	VOA	o-Xylene	ug/l				0.75	
Former Power Plant Building T-1451	EC-05	SW	VOA	Toluene	ug/l				1.5	
Former Power Plant Building T-1451	E-701	GW	TPH	Methane	ug/l	0.87U				
Former Power Plant Building T-1451	NL-08	SED	TPH	TPH-Diesel	ug/kg					51000Y
Former Power Plant Building T-1451	NL-08	SED	SVOA	Naphthalene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	2-Methylnaphthalene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Acenaphthylene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Acenaphthene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Fluorene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Phenanthrene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Anthracene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Fluoranthene	ug/kg					1.7J
Former Power Plant Building T-1451	NL-08	SED	SVOA	Pyrene	ug/kg					1.4J
Former Power Plant Building T-1451	NL-08	SED	SVOA	Benz(a)anthracene	ug/kg					1.4J
Former Power Plant Building T-1451	NL-08	SED	SVOA	Chrysene	ug/kg					1.1J
Former Power Plant Building T-1451	NL-08	SED	SVOA	Benzo(b)fluoranthene	ug/kg					1.7J
Former Power Plant Building T-1451	NL-08	SED	SVOA	Benzo(k)fluoranthene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Benzo(a)pyrene	ug/kg					1.3J
Former Power Plant Building T-1451	NL-08	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg					1.6J
Former Power Plant Building T-1451	NL-08	SED	SVOA	Dibenz(a,h)anthracene	ug/kg					3.1U
Former Power Plant Building T-1451	NL-08	SED	SVOA	Benzo(g,h,i)perylene	ug/kg					1.7J
Former Power Plant Building T-1451	NL-08	SW	TPH	TPH-Diesel	ug/l					240Y
Former Power Plant Building T-1451	NL-08	SW	VOA	Benzene	ug/l					1.3
Former Power Plant Building T-1451	NL-08	SW	VOA	Toluene	ug/l					0.89
Former Power Plant Building T-1451	NL-08	SW	VOA	Ethylbenzene	ug/l					2
Former Power Plant Building T-1451	NL-08	SW	VOA	m,p-Xylenes	ug/l					1.7
Former Power Plant Building T-1451	NL-08	SW	VOA	o-Xylene	ug/l					0.29J

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
Former Power Plant Building T-1451	NL-08	SW	SVOA	Naphthalene	ug/l					0.058B
Former Power Plant Building T-1451	NL-08	SW	SVOA	2-Methylnaphthalene	ug/l					0.0031J
Former Power Plant Building T-1451	NL-08	SW	SVOA	Acenaphthylene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Acenaphthene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Fluorene	ug/l					0.0041J
Former Power Plant Building T-1451	NL-08	SW	SVOA	Phenanthrene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Anthracene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Fluoranthene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Pyrene	ug/l					0.0075J
Former Power Plant Building T-1451	NL-08	SW	SVOA	Benz(a)anthracene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Chrysene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Benzo(b)fluoranthene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Benzo(k)fluoranthene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Benzo(a)pyrene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Dibenz(a,h)anthracene	ug/l					0.020U
Former Power Plant Building T-1451	NL-08	SW	SVOA	Benzo(g,h,i)perylene	ug/l					0.020U
Former Power Plant Building T-1451	01-151	GW	VOA	Benzene	ug/l		0.50U	0.50U	0.060J	0.50U
Former Power Plant Building T-1451	01-151	GW	VOA	Ethylbenzene	ug/l		2.6	3.3	3	2.8
Former Power Plant Building T-1451	01-151	GW	VOA	Toluene	ug/l		0.26J	0.60U	0.50U	0.50J
Former Power Plant Building T-1451	01-151	GW	VOA	m,p-Xylene	ug/l		1.3	2.2	2.2	2
Former Power Plant Building T-1451	01-151	GW	VOA	o-Xylene	ug/l		0.40J	0.54	1.5	0.81
GCI Compound, UST GCI-1	04-100	GW	TPH	TPH-Diesel	ug/l	370	210Y	270Z		
GCI Compound, UST GCI-1	04-100	GW	TPH	TPH-Gasoline	ug/l	5200J	4400Y	4000Z	4400Z	3100Y
GCI Compound, UST GCI-1	04-100	GW	VOA	Benzene	ug/l	1.0U	1.2J	1.2UJ	1	1Ui
GCI Compound, UST GCI-1	04-100	GW	VOA	Ethylbenzene	ug/l	13	18J	10J		
GCI Compound, UST GCI-1	04-100	GW	VOA	m,p-Xylene	ug/l	30	40J	23J		
GCI Compound, UST GCI-1	04-100	GW	VOA	o-Xylene	ug/l	5.8	7.0J	3.9J		
GCI Compound, UST GCI-1	04-100	GW	VOA	Toluene	ug/l	1.9	2.3J	3.3UJ		
GCI Compound, UST GCI-1	04-100	GW	VOA	Xylenes	ug/l	35.8	47J	26.9J		
GCI Compound, UST GCI-1	04-202	GW	TPH	TPH-Gasoline	ug/l			4400Y	5200Y	3300Y
GCI Compound, UST GCI-1	04-202	GW	VOA	Benzene	ug/l			2.9J	2.5J	0.77
GCI Compound, UST GCI-1	04-202	GW	VOA	Ethylbenzene	ug/l			19J		
GCI Compound, UST GCI-1	04-202	GW	VOA	m,p-Xylene	ug/l			150J		
GCI Compound, UST GCI-1	04-202	GW	VOA	o-Xylene	ug/l			10J		
GCI Compound, UST GCI-1	04-202	GW	VOA	Toluene	ug/l			8.3J		
GCI Compound, UST GCI-1	04-202	GW	VOA	Xylenes	ug/l			160J		
GCI Compound, UST GCI-1	04-204	GW	TPH	TPH-Diesel	ug/l	68				1700Y
GCI Compound, UST GCI-1	04-204	GW	TPH	TPH-Gasoline	ug/l	230	380Y	230Y	250Z	300Y
GCI Compound, UST GCI-1	04-204	GW	VOA	Benzene	ug/l	1.0U	0.78	0.42J	0.090J	
GCI Compound, UST GCI-1	04-204	GW	VOA	Ethylbenzene	ug/l	1.0U	6.2	2.6		
GCI Compound, UST GCI-1	04-204	GW	VOA	m,p-Xylene	ug/l			0.61		
GCI Compound, UST GCI-1	04-204	GW	VOA	o-Xylene	ug/l			0.070J		
GCI Compound, UST GCI-1	04-204	GW	VOA	Toluene	ug/l	1.0U	2.3	0.50U		
GCI Compound, UST GCI-1	04-204	GW	VOA	Xylenes	ug/l	3.0U	6.3	0.68J		
GCI Compound, UST GCI-1	04-210	GW	TPH	TPH-Gasoline	ug/l	6400	8300DY	6100Y	6800Y	4800Y
GCI Compound, UST GCI-1	04-210	GW	VOA	Benzene	ug/l	1.0U	6.3J	5.0D	4.3J	
GCI Compound, UST GCI-1	04-210	GW	VOA	Ethylbenzene	ug/l	120	170DJ	130D		
GCI Compound, UST GCI-1	04-210	GW	VOA	m,p-Xylene	ug/l	320	470DJ	350D		
GCI Compound, UST GCI-1	04-210	GW	VOA	o-Xylene	ug/l	85	120DJ	91D		
GCI Compound, UST GCI-1	04-210	GW	VOA	Toluene	ug/l	59	230DJ	110D		
GCI Compound, UST GCI-1	04-210	GW	VOA	Xylenes	ug/l	405	590DJ	441D		
GCI Compound, UST GCI-1	04-213	GW	TPH	TPH-Diesel	ug/l	170				
GCI Compound, UST GCI-1	04-213	GW	TPH	TPH-Gasoline	ug/l	3800J	5900Y	6900Z	4400Z	3300Y

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
GCI Compound, UST GCI-1	04-213	GW	VOA	Benzene	ug/l	1.0U				
GCI Compound, UST GCI-1	04-213	GW	VOA	Ethylbenzene	ug/l	3.8				
GCI Compound, UST GCI-1	04-213	GW	VOA	m,p-Xylene	ug/l	7.9				
GCI Compound, UST GCI-1	04-213	GW	VOA	o-Xylene	ug/l	1.0U				
GCI Compound, UST GCI-1	04-213	GW	VOA	Toluene	ug/l	1.0U				
GCI Compound, UST GCI-1	04-213	GW	VOA	Xylenes	ug/l	7.9				
GCI Compound, UST GCI-1	04-701	GW	TPH	TPH-Gasoline	ug/l	420J		700Y		230Y
GCI Compound, UST GCI-1	04-701	GW	VOA	Benzene	ug/l	0.94J		0.60UJ		0.58
GCI Compound, UST GCI-1	04-701	GW	VOA	Ethylbenzene	ug/l	5.7				
GCI Compound, UST GCI-1	04-701	GW	VOA	m,p-Xylene	ug/l	8.6				
GCI Compound, UST GCI-1	04-701	GW	VOA	o-Xylene	ug/l	1.3				
GCI Compound, UST GCI-1	04-701	GW	VOA	Toluene	ug/l	2.0				
GCI Compound, UST GCI-1	04-701	GW	VOA	Xylenes	ug/l	9.9				
GCI Compound, UST GCI-1	MRP-MW9	GW	TPH	TPH-Diesel	ug/l	140				
GCI Compound, UST GCI-1	MRP-MW9	GW	TPH	TPH-Gasoline	ug/l	140				
GCI Compound, UST GCI-1	MRP-MW9	GW	VOA	Benzene	ug/l	0.83J				
GCI Compound, UST GCI-1	MRP-MW9	GW	VOA	Ethylbenzene	ug/l	1.0U				
GCI Compound, UST GCI-1	MRP-MW9	GW	VOA	Toluene	ug/l	1.0U				
GCI Compound, UST GCI-1	MRP-MW9	GW	VOA	Xylenes	ug/l	3.0U				
Housing Area (Arctic Acres)	AA-02	GW	TPH	TPH-Diesel	ug/l					98B
Housing Area (Arctic Acres)	AA-06	GW	TPH	TPH-Diesel	ug/l					48BJ
Housing Area (Arctic Acres)	03-416	GW	TPH	TPH-Diesel	ug/l	1500		1400Y		1300Y
Housing Area (Arctic Acres)	03-420	GW	TPH	TPH-Diesel	ug/l	3800	2400Y	3300Y	2200Y	
Housing Area (Arctic Acres)	03-421	GW	TPH	TPH-Diesel	ug/l				15000Y	3800Y
Housing Area (Arctic Acres)	03-422	GW	TPH	TPH-Diesel	ug/l					120Y
Housing Area (Arctic Acres)	03-890	GW	TPH	TPH-Diesel	ug/l				44000YJ	10000Y
Housing Area (Arctic Acres)	AA-01	GW	TPH	TPH-Diesel	ug/l	660				
NMCB Building T-1416 Expanded Area	02-451	GW	DIN	Lead	ug/l		0.149	0.030UJ	0.030U	
NMCB Building T-1416 Expanded Area	02-451	GW	TIN	Lead	ug/l	0.098J	0.322	0.030UJ	0.030U	
NMCB Building T-1416 Expanded Area	02-451	GW	TPH	TPH-Diesel	ug/l	52U	49U	96U	49U	52Z
NMCB Building T-1416 Expanded Area	02-451	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	100U
NMCB Building T-1416 Expanded Area	02-451	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
NMCB Building T-1416 Expanded Area	02-451	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.14J	0.50U	
NMCB Building T-1416 Expanded Area	02-451	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.56	0.50U	
NMCB Building T-1416 Expanded Area	02-451	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.22J	0.50U	
NMCB Building T-1416 Expanded Area	02-451	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.65U	0.50U	
NMCB Building T-1416 Expanded Area	02-451	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.78J	1.0U	
NMCB Building T-1416 Expanded Area	02-452	GW	DIN	Lead	ug/l		21.3	14.7J	15.8	
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	1,3,5-Trinitrobenzene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	1,3-Dinitrobenzene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	2,4,6-Trinitrotoluene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	2,4-Dinitrotoluene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	2,6-Dinitrotoluene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	2-Amino-4,6-dinitrotoluene	ug/l	4.4J				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	2-Nitrotoluene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	3-Nitrotoluene	ug/l	6.9J				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	4-Amino-2,6-dinitrotoluene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	4-Nitrotoluene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	HMX	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	Nitrobenzene	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	RDX	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	ORD	Tetryl	ug/l	2.5U				
NMCB Building T-1416 Expanded Area	02-452	GW	TIN	Lead	ug/l	24.8J	21.6	16.6J	17.2	
NMCB Building T-1416 Expanded Area	02-452	GW	TPH	TPH-Diesel	ug/l	9600J	9000Y	6600Y	9900Y	9300Y

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
NMCB Building T-1416 Expanded Area	02-452	GW	TPH	TPH-Gasoline	ug/l	6400	6100DY	5900Y	9200DY	5300Y
NMCB Building T-1416 Expanded Area	02-452	GW	VOA	Benzene	ug/l	1.0U	0.50U	5.0 UJ	0.50U	0.50Ui
NMCB Building T-1416 Expanded Area	02-452	GW	VOA	Ethylbenzene	ug/l	36	68D	23DJ	91DJ	
NMCB Building T-1416 Expanded Area	02-452	GW	VOA	m,p-Xylene	ug/l	360	430D	260DJ	620DJ	
NMCB Building T-1416 Expanded Area	02-452	GW	VOA	o-Xylene	ug/l	130	160D	88DJ	240DJ	
NMCB Building T-1416 Expanded Area	02-452	GW	VOA	Toluene	ug/l	0.83J	3.3	5.0UJ	1.9J	
NMCB Building T-1416 Expanded Area	02-452	GW	VOA	Xylenes	ug/l	490	590D	348DJ	860DJ	
NMCB Building T-1416 Expanded Area	02-453	GW	DIN	Lead	ug/l		9.16	8.230J	4.01	
NMCB Building T-1416 Expanded Area	02-453	GW	TIN	Lead	ug/l	21.4J	9.73	9.160J	4.94	
NMCB Building T-1416 Expanded Area	02-453	GW	TPH	TPH-Diesel	ug/l	9400J	8400Y	7500Y	6000Y	7600Y
NMCB Building T-1416 Expanded Area	02-453	GW	TPH	TPH-Gasoline	ug/l	4100	3800DY	3500Y	4700DY	3200Y
NMCB Building T-1416 Expanded Area	02-453	GW	VOA	Benzene	ug/l	1.2	1.7U	2.4J	4.2	3.6
NMCB Building T-1416 Expanded Area	02-453	GW	VOA	Ethylbenzene	ug/l	22	24	24J	35	
NMCB Building T-1416 Expanded Area	02-453	GW	VOA	m,p-Xylene	ug/l	110	89	97J	120	
NMCB Building T-1416 Expanded Area	02-453	GW	VOA	o-Xylene	ug/l	24	22	27J	25	
NMCB Building T-1416 Expanded Area	02-453	GW	VOA	Toluene	ug/l	2.2	2	2.5J	4.2	
NMCB Building T-1416 Expanded Area	02-453	GW	VOA	Xylenes	ug/l	134	111	124J	145	
NMCB Building T-1416 Expanded Area	02-455	GW	DIN	Lead	ug/l		0.341	0.578J		
NMCB Building T-1416 Expanded Area	02-455	GW	TIN	Lead	ug/l	0.55J	0.46	0.749J		
NMCB Building T-1416 Expanded Area	02-455	GW	TPH	TPH-Diesel	ug/l	1200	770Y	440Y		650Y
NMCB Building T-1416 Expanded Area	02-455	GW	TPH	TPH-Gasoline	ug/l	69	61J	68J		49J
NMCB Building T-1416 Expanded Area	02-455	GW	VOA	Benzene	ug/l	1.0	0.68	0.56		0.95
NMCB Building T-1416 Expanded Area	02-455	GW	VOA	Ethylbenzene	ug/l	0.81J	0.14J	0.21J		
NMCB Building T-1416 Expanded Area	02-455	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.13J		
NMCB Building T-1416 Expanded Area	02-455	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U		
NMCB Building T-1416 Expanded Area	02-455	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.78U		
NMCB Building T-1416 Expanded Area	02-455	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.13J		
NMCB Building T-1416 Expanded Area	02-461	GW	DIN	Lead	ug/l		108J	94.0J	61.3	
NMCB Building T-1416 Expanded Area	02-461	GW	TIN	Lead	ug/l	180	112J	99.5J	64.7	
NMCB Building T-1416 Expanded Area	02-461	GW	TPH	TPH-Diesel	ug/l	3900	5500Y	4300Z	4800Y	3700Z
NMCB Building T-1416 Expanded Area	02-461	GW	TPH	TPH-Gasoline	ug/l	9900	14000DY	8600Y	10000DY	9500DY
NMCB Building T-1416 Expanded Area	02-461	GW	VOA	Benzene	ug/l	4.9	6.0DJ	5.1D	2.5D	1.9
NMCB Building T-1416 Expanded Area	02-461	GW	VOA	Ethylbenzene	ug/l	200	410DJ	220D	260D	
NMCB Building T-1416 Expanded Area	02-461	GW	VOA	m,p-Xylene	ug/l	370	700DJ	360D	460D	
NMCB Building T-1416 Expanded Area	02-461	GW	VOA	o-Xylene	ug/l	310	650DJ	360D	390D	
NMCB Building T-1416 Expanded Area	02-461	GW	VOA	Toluene	ug/l	130	140DJ	78D	65D	
NMCB Building T-1416 Expanded Area	02-461	GW	VOA	Xylenes	ug/l	680	1350D	720D	850D	
NMCB Building T-1416 Expanded Area	02-478	GW	DIN	Lead	ug/l		0.04	0.032U	0.045U	
NMCB Building T-1416 Expanded Area	02-478	GW	TIN	Lead	ug/l	0.73J	0.961	1.29	1.08	
NMCB Building T-1416 Expanded Area	02-478	GW	TPH	TPH-Diesel	ug/l	5600J	3100Y	2800Y	3200Y	3500Y
NMCB Building T-1416 Expanded Area	02-478	GW	TPH	TPH-Gasoline	ug/l	480	120Z	72J	81J	77J
NMCB Building T-1416 Expanded Area	02-478	GW	VOA	Benzene	ug/l	1.2	0.33J	0.15J	0.34J	0.26J
NMCB Building T-1416 Expanded Area	02-478	GW	VOA	Ethylbenzene	ug/l	40	15	3.1	7.1	
NMCB Building T-1416 Expanded Area	02-478	GW	VOA	m,p-Xylene	ug/l	87	11	2.3	6.8	
NMCB Building T-1416 Expanded Area	02-478	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.16J	
NMCB Building T-1416 Expanded Area	02-478	GW	VOA	Toluene	ug/l	1.0U	0.21J	1.4U	1.1U	
NMCB Building T-1416 Expanded Area	02-478	GW	VOA	Xylenes	ug/l	87	11	2.3	6.96J	
NMCB Building T-1416 Expanded Area	02-479	GW	DIN	Lead	ug/l		0.407	0.089	0.236	
NMCB Building T-1416 Expanded Area	02-479	GW	TIN	Lead	ug/l	0.90J	2.13	0.666	0.737	
NMCB Building T-1416 Expanded Area	02-479	GW	TPH	TPH-Diesel	ug/l	190	50U	550Y	1200Y	1400Y
NMCB Building T-1416 Expanded Area	02-479	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	30J
NMCB Building T-1416 Expanded Area	02-479	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.070J	0.50U
NMCB Building T-1416 Expanded Area	02-479	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.10J	
NMCB Building T-1416 Expanded Area	02-479	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.14J	0.50U	

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NMCB Building T-1416 Expanded Area	02-479	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	
NMCB Building T-1416 Expanded Area	02-479	GW	VOA	Toluene	ug/l	1.0U	0.12	1.6U	0.50U	
NMCB Building T-1416 Expanded Area	02-479	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.14J	1.0U	
NMCB Building T-1416 Expanded Area	02-813	GW	DIN	Lead	ug/l		1.1	0.769		
NMCB Building T-1416 Expanded Area	02-813	GW	TIN	Lead	ug/l	1.3J	1.2	0.872		
NMCB Building T-1416 Expanded Area	02-813	GW	TPH	TPH-Diesel	ug/l	310	220Y	150Y		
NMCB Building T-1416 Expanded Area	02-813	GW	TPH	TPH-Gasoline	ug/l	850	390Z	830Z		
NMCB Building T-1416 Expanded Area	02-813	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U		
NMCB Building T-1416 Expanded Area	02-813	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U		
NMCB Building T-1416 Expanded Area	02-813	GW	VOA	m,p-Xylene	ug/l	2.0U	0.5U	0.50U		
NMCB Building T-1416 Expanded Area	02-813	GW	VOA	o-Xylene	ug/l	1.0U	0.5U	0.50U		
NMCB Building T-1416 Expanded Area	02-813	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.90U		
NMCB Building T-1416 Expanded Area	02-813	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U		
NMCB Building T-1416 Expanded Area	02-817	GW	DIN	Lead	ug/l		36.6J	22.2J	18.4	
NMCB Building T-1416 Expanded Area	02-817	GW	TIN	Lead	ug/l	32.3J	42.4J	24.0J	21.9	
NMCB Building T-1416 Expanded Area	02-817	GW	TPH	TPH-Diesel	ug/l	12000J	16000Y	8900Y	6700Y	6500Z
NMCB Building T-1416 Expanded Area	02-817	GW	TPH	TPH-Gasoline	ug/l	12000J	11000DY	10000DY	12000DY	11000DY
NMCB Building T-1416 Expanded Area	02-817	GW	VOA	Benzene	ug/l	11	7.8D	13D	11D	11
NMCB Building T-1416 Expanded Area	02-817	GW	VOA	Ethylbenzene	ug/l	170	140D	200D	200D	
NMCB Building T-1416 Expanded Area	02-817	GW	VOA	m,p-Xylene	ug/l	1600	1100D	1400D	1500D	
NMCB Building T-1416 Expanded Area	02-817	GW	VOA	o-Xylene	ug/l	2900	210D	120D	200D	
NMCB Building T-1416 Expanded Area	02-817	GW	VOA	Toluene	ug/l	28	19D	17D	25D	
NMCB Building T-1416 Expanded Area	02-817	GW	VOA	Xylenes	ug/l	4500	1310D	1520D	1700D	
NMCB Building T-1416 Expanded Area	02-818	GW	DIN	Lead	ug/l		127	81.7J	32.6	
NMCB Building T-1416 Expanded Area	02-818	GW	TIN	Lead	ug/l		141	96.2J	35	
NMCB Building T-1416 Expanded Area	02-818	GW	TPH	TPH-Diesel	ug/l		13000Y	9800Y	4400Y	
NMCB Building T-1416 Expanded Area	02-818	GW	TPH	TPH-Gasoline	ug/l		9600DY	9700Z	9100DY	
NMCB Building T-1416 Expanded Area	02-818	GW	VOA	Benzene	ug/l		11D	5.5JD	3.0D	
NMCB Building T-1416 Expanded Area	02-818	GW	VOA	Ethylbenzene	ug/l		58D	42D	40D	
NMCB Building T-1416 Expanded Area	02-818	GW	VOA	m,p-Xylene	ug/l		1200D	1300D	1000D	
NMCB Building T-1416 Expanded Area	02-818	GW	VOA	o-Xylene	ug/l		120D	130D	96D	
NMCB Building T-1416 Expanded Area	02-818	GW	VOA	Toluene	ug/l		20D	15JD	9.9D	
NMCB Building T-1416 Expanded Area	02-818	GW	VOA	Xylenes	ug/l		1320D	1430D	1096D	
NMCB Building T-1416 Expanded Area	E-201	GW	DIN	Lead	ug/l		44.6J	35.2	43.9	
NMCB Building T-1416 Expanded Area	E-201	GW	TIN	Lead	ug/l	56.7	49.5J	40	49.3	
NMCB Building T-1416 Expanded Area	E-201	GW	TPH	TPH-Diesel	ug/l	1700	1900Y	1700Y	2300Y	1700Z
NMCB Building T-1416 Expanded Area	E-201	GW	TPH	TPH-Gasoline	ug/l	14000	13000DY	9400DY	11000DY	13000DY
NMCB Building T-1416 Expanded Area	E-201	GW	VOA	Benzene	ug/l	1.0U	0.50U	1.0U	0.50U	0.50U
NMCB Building T-1416 Expanded Area	E-201	GW	VOA	Ethylbenzene	ug/l	120	90DJ	160D	170DJ	
NMCB Building T-1416 Expanded Area	E-201	GW	VOA	m,p-Xylene	ug/l	540	410DJ	800D	860DJ	
NMCB Building T-1416 Expanded Area	E-201	GW	VOA	o-Xylene	ug/l	31	48J	61DJ	56J	
NMCB Building T-1416 Expanded Area	E-201	GW	VOA	Toluene	ug/l	1.0U	0.50U	1.6UJ	0.54UJ	
NMCB Building T-1416 Expanded Area	E-201	GW	VOA	Xylenes	ug/l	571	458DJ	861DJ	916DJ	
NMCB Building T-1416 Expanded Area	NL-05	SED	TIN	Lead	ug/kg				13200J	
NMCB Building T-1416 Expanded Area	NL-05	SED	TPH	TPH-Diesel	ug/kg				40000YH	61000H
NMCB Building T-1416 Expanded Area	NL-05	SED	TPH	TPH-Gasoline	ug/kg				7000U	6800U
NMCB Building T-1416 Expanded Area	NL-05	SED	VOA	Benzene	ug/kg				25U	49U
NMCB Building T-1416 Expanded Area	NL-05	SED	VOA	Ethylbenzene	ug/kg				25U	
NMCB Building T-1416 Expanded Area	NL-05	SED	VOA	m,p-Xylene	ug/kg				49U	
NMCB Building T-1416 Expanded Area	NL-05	SED	VOA	o-Xylene	ug/kg				25U	
NMCB Building T-1416 Expanded Area	NL-05	SED	VOA	Toluene	ug/kg				25U	
NMCB Building T-1416 Expanded Area	NL-05	SED	VOA	Xylenes	ug/kg				74U	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	DIN	Lead	ug/l		74.2		58	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	TIN	Lead	ug/l		87.6		64.1	

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
NMCB Building T-1416 Expanded Area	NMCB-04	GW	TPH	TPH-Diesel	ug/l		3400Y		1800Y	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	TPH	TPH-Gasoline	ug/l		5000DY		3200Y	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	VOA	Benzene	ug/l		0.86U		0.46J	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	VOA	Ethylbenzene	ug/l		36		24J	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	VOA	m,p-Xylene	ug/l		220D		160D	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	VOA	o-Xylene	ug/l		19		9.9J	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	VOA	Toluene	ug/l		8.6		3.1J	
NMCB Building T-1416 Expanded Area	NMCB-04	GW	VOA	Xylenes	ug/l		239D		169.9DJ	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	DIN	Lead	ug/l		0.255J	0.300UJ	0.132	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	TIN	Lead	ug/l	0.82J	1.60J	0.911J	0.633	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	TPH	TPH-Diesel	ug/l	200	90U	120Z	110H	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	TPH	TPH-Gasoline	ug/l	150	100U	300Y	160Y	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.060J	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	VOA	Ethylbenzene	ug/l	0.98J	0.50U	11	0.19J	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	VOA	m,p-Xylene	ug/l	1.4J	0.50U	25	0.79	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	1.9	0.50U	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.81U	0.50U	
NMCB Building T-1416 Expanded Area	NMCB-05	GW	VOA	Xylenes	ug/l	1.4J	1.0U	26.9	0.79	
NMCB Building T-1416 Expanded Area	NMCB-07	GW	DIN	Lead	ug/l		14.3			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	TIN	Lead	ug/l		16.6			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	TPH	TPH-Diesel	ug/l		7800Y			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	TPH	TPH-Gasoline	ug/l		17000DY			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	VOA	Benzene	ug/l		71D			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	VOA	Ethylbenzene	ug/l		320D			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	VOA	m,p-Xylene	ug/l		2000D			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	VOA	o-Xylene	ug/l		580D			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	VOA	Toluene	ug/l		320D			
NMCB Building T-1416 Expanded Area	NMCB-07	GW	VOA	Xylenes	ug/l		2580D			
NMCB Building T-1416 Expanded Area	NMCB-08	GW	DIN	Lead	ug/l		3.77J	0.723J	0.796	
NMCB Building T-1416 Expanded Area	NMCB-08	GW	TIN	Lead	ug/l	3.5	4.97J	1.030J	1.06	
NMCB Building T-1416 Expanded Area	NMCB-08	GW	TPH	TPH-Diesel	ug/l	6800	20000Y	6900Y	5600Y	5300Y
NMCB Building T-1416 Expanded Area	NMCB-08	GW	TPH	TPH-Gasoline	ug/l	1900	1800Y	2600Y	2800DY	2600Y
NMCB Building T-1416 Expanded Area	NMCB-08	GW	VOA	Benzene	ug/l	37	29	33D	31	24
NMCB Building T-1416 Expanded Area	NMCB-08	GW	VOA	Ethylbenzene	ug/l	36	32	37D	42	
NMCB Building T-1416 Expanded Area	NMCB-08	GW	VOA	m,p-Xylene	ug/l	140	85	97D	120	
NMCB Building T-1416 Expanded Area	NMCB-08	GW	VOA	o-Xylene	ug/l	19	18	16D	26	
NMCB Building T-1416 Expanded Area	NMCB-08	GW	VOA	Toluene	ug/l	9.5	7.2	8.4D	15	
NMCB Building T-1416 Expanded Area	NMCB-08	GW	VOA	Xylenes	ug/l	159	103	113D	146	
NMCB Building T-1416 Expanded Area	NMCB-09	GW	DIN	Lead	ug/l		0.682	0.619J	0.215	
NMCB Building T-1416 Expanded Area	NMCB-09	GW	TIN	Lead	ug/l	0.56J	0.806	1.280J	0.394	
NMCB Building T-1416 Expanded Area	NMCB-09	GW	TPH	TPH-Diesel	ug/l	2900	3500Y	8300Y	2600Y	2400Y
NMCB Building T-1416 Expanded Area	NMCB-09	GW	TPH	TPH-Gasoline	ug/l	470	330Y	580H	430Y	360Y
NMCB Building T-1416 Expanded Area	NMCB-09	GW	VOA	Benzene	ug/l	2.0	2.9	3.8	3.7	2.3
NMCB Building T-1416 Expanded Area	NMCB-09	GW	VOA	Ethylbenzene	ug/l	16	15	23	16	
NMCB Building T-1416 Expanded Area	NMCB-09	GW	VOA	m,p-Xylene	ug/l	31	32	60	32	
NMCB Building T-1416 Expanded Area	NMCB-09	GW	VOA	o-Xylene	ug/l	1.2	1.4	1.9	1	
NMCB Building T-1416 Expanded Area	NMCB-09	GW	VOA	Toluene	ug/l	1.0U	0.85	2.3U	1.1U	
NMCB Building T-1416 Expanded Area	NMCB-09	GW	VOA	Xylenes	ug/l	32.2	33.4	61.9	33	
NMCB Building T-1416 Expanded Area	NMCB-10	GW	DIN	Lead	ug/l		0.466J	1.260J		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	TIN	Lead	ug/l	1.7	1.00J	1.570J		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	TPH	TPH-Diesel	ug/l	4200	13000Y	6800Y		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	TPH	TPH-Gasoline	ug/l	4700	4600DY	3400Y		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	VOA	Benzene	ug/l	53	37J	6.8D		

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NMCB Building T-1416 Expanded Area	NMCB-10	GW	VOA	Ethylbenzene	ug/l	140	100DJ	45D		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	VOA	m,p-Xylene	ug/l	390	330DJ	330D		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	VOA	o-Xylene	ug/l	12	12J	14D		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	VOA	Toluene	ug/l	5.0	6.0J	4.3U		
NMCB Building T-1416 Expanded Area	NMCB-10	GW	VOA	Xylenes	ug/l	402	342DJ	344D		
NMCB Building T-1416 Expanded Area	NMCB-11	GW	DIN	Lead	ug/l		0.403	0.148	0.228	
NMCB Building T-1416 Expanded Area	NMCB-11	GW	TIN	Lead	ug/l	0.38J	0.932	0.871	0.036U	
NMCB Building T-1416 Expanded Area	NMCB-11	GW	TPH	TPH-Diesel	ug/l	1600	2500Y	2600Y	1200Y	2400Y
NMCB Building T-1416 Expanded Area	NMCB-11	GW	TPH	TPH-Gasoline	ug/l	25U	27J	17J	18J	19J
NMCB Building T-1416 Expanded Area	NMCB-11	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.050J	0.50U
NMCB Building T-1416 Expanded Area	NMCB-11	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.50U	
NMCB Building T-1416 Expanded Area	NMCB-11	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.17J	0.50U	
NMCB Building T-1416 Expanded Area	NMCB-11	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	
NMCB Building T-1416 Expanded Area	NMCB-11	GW	VOA	Toluene	ug/l	1.0U	0.50U	1.9U	0.50U	
NMCB Building T-1416 Expanded Area	NMCB-11	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.17J	1.0U	
NMCB Building T-1416 Expanded Area	NMCB-12	GW	DIN	Lead	ug/l		0.047	0.064U	0.030U	
NMCB Building T-1416 Expanded Area	NMCB-12	GW	TIN	Lead	ug/l	0.12J	0.105	0.075	0.053U	
NMCB Building T-1416 Expanded Area	NMCB-12	GW	TPH	TPH-Diesel	ug/l	5500J	3700Y	6500Y	3900Y	5600Y
NMCB Building T-1416 Expanded Area	NMCB-12	GW	TPH	TPH-Gasoline	ug/l	320	77J	220H	150H	130H
NMCB Building T-1416 Expanded Area	NMCB-12	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.17J	0.12J	0.13J
NMCB Building T-1416 Expanded Area	NMCB-12	GW	VOA	Ethylbenzene	ug/l	4.3	1.6	3.4	9.5	
NMCB Building T-1416 Expanded Area	NMCB-12	GW	VOA	m,p-Xylene	ug/l	11	2.7	6.5	8.3	
NMCB Building T-1416 Expanded Area	NMCB-12	GW	VOA	o-Xylene	ug/l	2.1	0.88	2.5	0.7	
NMCB Building T-1416 Expanded Area	NMCB-12	GW	VOA	Toluene	ug/l	1.0U	0.21J	1.8U	0.50U	
NMCB Building T-1416 Expanded Area	NMCB-12	GW	VOA	Xylenes	ug/l	13.1	3.58	9	9	
NORPAC Hill Seep Area	04-145	GW	TPH	TPH-Diesel	ug/l	95	260Y			
NORPAC Hill Seep Area	04-146	GW	TPH	TPH-Diesel	ug/l		7000Y		3200Y	6400Y
NORPAC Hill Seep Area	04-147	GW	TPH	TPH-Diesel	ug/l	2000	610Y	2100Y		1800Y
NORPAC Hill Seep Area	04-403	GW	TPH	TPH-Diesel	ug/l	1000	920Y	640Y		670Y
NORPAC Hill Seep Area	04-405	GW	TPH	TPH-Diesel	ug/l	2400	1400Y	2900Y		1800Y
NORPAC Hill Seep Area	NL-06	SED	TPH	TPH-Diesel	ug/kg				28000U	26000J
NORPAC Hill Seep Area	NS-2	GW	TPH	TPH-Diesel	ug/l	160	60U			
ROICC Contractor's Area, UST ROICC-7	08-175	GW	TPH	TPH-Gasoline	ug/l		32J			
ROICC Contractor's Area, UST ROICC-7	08-175	GW	VOA	Benzene	ug/l	1.0U		0.21J		0.15J
ROICC Contractor's Area, UST ROICC-7	08-175	GW	VOA	Ethylbenzene	ug/l	1.0U				
ROICC Contractor's Area, UST ROICC-7	08-175	GW	VOA	m,p-Xylene	ug/l	1.2J				
ROICC Contractor's Area, UST ROICC-7	08-175	GW	VOA	o-Xylene	ug/l	1.0U				
ROICC Contractor's Area, UST ROICC-7	08-175	GW	VOA	Toluene	ug/l	1.0U				
ROICC Contractor's Area, UST ROICC-7	08-175	GW	VOA	Xylenes	ug/l	1.2J				
ROICC Contractor's Area, UST ROICC-7	08-200	GW	TPH	TPH-Gasoline	ug/l	620J	770Z			
ROICC Contractor's Area, UST ROICC-7	08-200	GW	VOA	Benzene	ug/l	250	300D	320D	310D	310JD
ROICC Contractor's Area, UST ROICC-7	08-200	GW	VOA	Ethylbenzene	ug/l	1.0U	0.53			
ROICC Contractor's Area, UST ROICC-7	08-200	GW	VOA	m,p-Xylene	ug/l	1.8J	1.9			
ROICC Contractor's Area, UST ROICC-7	08-200	GW	VOA	o-Xylene	ug/l	1.0U	0.15J			
ROICC Contractor's Area, UST ROICC-7	08-200	GW	VOA	Toluene	ug/l	1.0U	0.18J			
ROICC Contractor's Area, UST ROICC-7	08-200	GW	VOA	Xylenes	ug/l	1.8J	2.05J			
ROICC Contractor's Area, UST ROICC-7	08-202	GW	TPH	TPH-Gasoline	ug/l	41	49J			
ROICC Contractor's Area, UST ROICC-7	08-202	GW	VOA	Benzene	ug/l	13J	14	16	12	12
ROICC Contractor's Area, UST ROICC-7	08-202	GW	VOA	Ethylbenzene	ug/l	0.62J	0.50U			
ROICC Contractor's Area, UST ROICC-7	08-202	GW	VOA	m,p-Xylene	ug/l	3.7J	0.50U			
ROICC Contractor's Area, UST ROICC-7	08-202	GW	VOA	o-Xylene	ug/l	0.73J	0.11J			
ROICC Contractor's Area, UST ROICC-7	08-202	GW	VOA	Toluene	ug/l	1.0J	0.28J			
ROICC Contractor's Area, UST ROICC-7	08-202	GW	VOA	Xylenes	ug/l	4.43J				
Runway 5-23 Avgas Valve Pit	14-100	GW	TPH	TPH-Gasoline	ug/l	3400	2000Y	3200Z	3500Z	2200Y

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Runway 5-23 Avgas Valve Pit	14-100	GW	VOA	Benzene	ug/l	0.76J		0.75JD		
Runway 5-23 Avgas Valve Pit	14-100	GW	VOA	Ethylbenzene	ug/l	8.3		14D		
Runway 5-23 Avgas Valve Pit	14-100	GW	VOA	m,p-Xylene	ug/l	190		260D		
Runway 5-23 Avgas Valve Pit	14-100	GW	VOA	o-Xylene	ug/l	1.0U		1.8JD		
Runway 5-23 Avgas Valve Pit	14-100	GW	VOA	Toluene	ug/l	1.0U		2.5U		
Runway 5-23 Avgas Valve Pit	14-100	GW	VOA	Xylenes	ug/l	190		261.8JD		
Runway 5-23 Avgas Valve Pit	14-110	GW	TPH	TPH-Gasoline	ug/l		990Y	960Z		730Y
Runway 5-23 Avgas Valve Pit	14-110	GW	VOA	Benzene	ug/l	1.0U				
Runway 5-23 Avgas Valve Pit	14-110	GW	VOA	Ethylbenzene	ug/l	1.0U				
Runway 5-23 Avgas Valve Pit	14-110	GW	VOA	m,p-Xylene	ug/l	4.5				
Runway 5-23 Avgas Valve Pit	14-110	GW	VOA	o-Xylene	ug/l	1.0U				
Runway 5-23 Avgas Valve Pit	14-110	GW	VOA	Toluene	ug/l	1.0U				
Runway 5-23 Avgas Valve Pit	14-110	GW	VOA	Xylenes	ug/l	4.5				
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	TPH	TPH-Diesel	ug/l		38000Y		3700Y	2000Z
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	TPH	TPH-Gasoline	ug/l		3600DY		4600Y	4100Y
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	VOA	Benzene	ug/l		0.76		1.2	6.4
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	VOA	Ethylbenzene	ug/l		140D		220D	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	VOA	m,p-Xylene	ug/l		290D		350D	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	VOA	o-Xylene	ug/l		180D		180D	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	VOA	Toluene	ug/l		41		60	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	GW	VOA	Xylenes	ug/l		470D		530D	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-152	GW	VOA	Benzene	ug/l	1.0U				
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-152	GW	VOA	Ethylbenzene	ug/l	1.0U				
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-152	GW	VOA	Toluene	ug/l	1.0U				
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-152	GW	VOA	Xylenes	ug/l	3.0U				
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	TPH	TPH-Diesel	ug/l	76		52J		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	TPH	TPH-Gasoline	ug/l	25U		100U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	VOA	Benzene	ug/l	1.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	VOA	Ethylbenzene	ug/l	1.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	VOA	m,p-Xylene	ug/l	2.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	VOA	o-Xylene	ug/l	1.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	VOA	Toluene	ug/l	1.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-801	GW	VOA	Xylenes	ug/l	3.0U		1.0U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	TPH	Methane	ug/l	3.4				
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	TPH	TPH-Diesel	ug/l	57U		27J		26J
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	TPH	TPH-Gasoline	ug/l	25U		100U		100U
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	VOA	Benzene	ug/l	1.0U		0.50U		0.50U
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	VOA	Ethylbenzene	ug/l	1.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	VOA	m,p-Xylene	ug/l	2.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	VOA	o-Xylene	ug/l	1.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	VOA	Toluene	ug/l	1.0U		0.50U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	GW	VOA	Xylenes	ug/l	3.0U		1.0U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	TPH	TPH-Diesel	ug/l	84	97Z		100Y	28J
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	TPH	TPH-Gasoline	ug/l	25U	100U		100U	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	VOA	Benzene	ug/l	1.0U	0.50U		0.50U	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U		0.50U	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	VOA	m,p-Xylene	ug/l		0.50U		0.50U	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	VOA	o-Xylene	ug/l		0.50U		0.50U	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	VOA	Toluene	ug/l	1.0U	0.50U		0.50U	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-116	GW	VOA	Xylenes	ug/l	3.0U	1.0U		1.0U	
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	TPH	TPH-Diesel	ug/l	1200	360Y	1100Z		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	TPH	TPH-Gasoline	ug/l	1400	230Y	2300Y		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	VOA	Benzene	ug/l	4.2	0.40J	3.3D		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	VOA	Ethylbenzene	ug/l	110	14	120D		

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SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	VOA	m,p-Xylene	ug/l		12	110D		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	VOA	o-Xylene	ug/l		0.76	3.9D		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	VOA	Toluene	ug/l	1.9	0.28J	3.4U		
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	MW-117	GW	VOA	Xylenes	ug/l	84.1	12.76	113.9D		
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	2-Methylnaphthalene	ug/l			0.087	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Acenaphthene	ug/l			0.040U	0.33	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Acenaphthylene	ug/l			0.040U	0.032U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Anthracene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Benzo(a)anthracene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Benzo(a)pyrene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Benzo(b)fluoranthene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Benzo(g,h,i)perylene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Benzo(k)fluoranthene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Chrysene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Dibenz(a,h)anthracene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Fluoranthene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Fluorene	ug/l			0.040U	0.69	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Naphthalene	ug/l			0.050U	0.67	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Phenanthrene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	SVOA	Pyrene	ug/l			0.020U	0.020U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	TPH	TPH-Diesel	ug/l	5500	4800Y	5000Y	2400Y	4000Y
SA 79, Main Road Pipeline, North End and South End	02-230	GW	VOA	Benzene	ug/l			0.50U	0.19J	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	VOA	Ethylbenzene	ug/l			0.30J	0.19J	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	VOA	m,p-Xylene	ug/l			0.50U	0.50U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	VOA	o-Xylene	ug/l			0.50U	0.10J	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	VOA	Toluene	ug/l			0.74U	0.50U	
SA 79, Main Road Pipeline, North End and South End	02-230	GW	VOA	Xylenes	ug/l			1.0U	0.10J	
SA 79, Main Road Pipeline, North End and South End	E-403	GW	TPH	TPH-Diesel	ug/l			67J	85	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	2-Methylnaphthalene	ug/l			0.041	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Acenaphthene	ug/l			0.05	0.15	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Acenaphthylene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Anthracene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Benzo(a)anthracene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Benzo(a)pyrene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Benzo(b)fluoranthene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Benzo(g,h,i)perylene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Benzo(k)fluoranthene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Chrysene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Dibenz(a,h)anthracene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Fluoranthene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Fluorene	ug/l			0.020U	0.049	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Naphthalene	ug/l			0.030U	0.11U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Phenanthrene	ug/l			0.020U	0.019U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	SVOA	Pyrene	ug/l			0.020U	0.025	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	TPH	TPH-Diesel	ug/l	4300	4700Y	3400Y	3000Y	2700Y
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	VOA	Benzene	ug/l			0.50U	0.060J	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	VOA	Ethylbenzene	ug/l			0.090J	0.080J	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	VOA	m,p-Xylene	ug/l			0.50U	0.50U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	VOA	o-Xylene	ug/l			0.50U	0.50U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	VOA	Toluene	ug/l			0.53U	0.50U	
SA 79, Main Road Pipeline, North End and South End	MRP-MW8	GW	VOA	Xylenes	ug/l			1.0U	1.0U	
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	2-Methylnaphthalene	ug/l			0.0037J		

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SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Acenaphthene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Acenaphthylene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Anthracene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Benzo(a)anthracene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Benzo(a)pyrene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Benzo(b)fluoranthene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Benzo(g,h,i)perylene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Benzo(k)fluoranthene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Chrysene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Dibenz(a,h)anthracene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Fluoranthene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Fluorene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Naphthalene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Phenanthrene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	SVOA	Pyrene	ug/l			0.020U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	TPH	TPH-Diesel	ug/l		1000Y	60J		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	VOA	Benzene	ug/l			0.50U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	VOA	Ethylbenzene	ug/l			0.50U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	VOA	m,p-Xylene	ug/l			0.50U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	VOA	o-Xylene	ug/l			0.50U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	VOA	Toluene	ug/l			0.56U		
SA 79, Main Road Pipeline, North End and South End	NL-01	GW	VOA	Xylenes	ug/l			1.0U		
SA 80, Steam Plant 4, USTs 27089 and 27090	04-103	GW	TPH	TPH-Diesel	ug/l	110		91J		
SA 80, Steam Plant 4, USTs 27089 and 27090	04-158	GW	TPH	TPH-Diesel	ug/l					13000Y
SA 80, Steam Plant 4, USTs 27089 and 27090	04-159	GW	TPH	TPH-Diesel	ug/l	3900	4300Y	9800Y	3800Y	4000Y
SA 80, Steam Plant 4, USTs 27089 and 27090	04-173	GW	TPH	TPH-Diesel	ug/l					3200Y
SA 80, Steam Plant 4, USTs 27089 and 27090	04-801	GW	TPH	TPH-Diesel	ug/l	53U	520Y	21J	58U	15J
SA 80, Steam Plant 4, USTs 27089 and 27090	SP4-3	GW	TPH	TPH-Diesel	ug/l	4900	800Y	500Y		5700Y
SA 82, P-80/P-81 Buildings	12-170	GW	TPH	TPH-Diesel	ug/l	330		410Y		
SA 82, P-80/P-81 Buildings	12-172	GW	TPH	TPH-Diesel	ug/l	200		37J		
SA 82, P-80/P-81 Buildings	12-401	GW	TPH	TPH-Diesel	ug/l	50U				
SA 82, P-80/P-81 Buildings	12-180	GW	TPH	TPH-Diesel	ug/l		930Y	170Y		
SA 82, P-80/P-81 Buildings	12-194	GW	TPH	TPH-Diesel	ug/l			14J		
SA 82, P-80/P-81 Buildings	12-194	GW	TPH	TPH-Heavy Fraction/Oil	ug/l			37J		
SA 88, P-70 Energy Generator	12-162	GW	TPH	TPH-Diesel	ug/l		3300Y	3800Y	890Y	1200Y
SA 88, P-70 Energy Generator	12-163	GW	TPH	TPH-Diesel	ug/l		2800Y		2400Y	3600Y
SA 88, P-70 Energy Generator	12-198	GW	TPH	TPH-Diesel	ug/l				4500Y	2500Y
SA 88, P-70 Energy Generator	12-253	GW	TPH	TPH-Diesel	ug/l	1200	930Y	760Y	600Y	1100Y
SA 88, P-70 Energy Generator	12-701	GW	TPH	TPH-Diesel	ug/l	75	100U	270Y	70U	
SA 88, P-70 Energy Generator	12-702	GW	TPH	TPH-Diesel	ug/l	270	370Y	260Y	270Y	
SA 88, P-70 Energy Generator	12-197	GW	TPH	TPH-Diesel	ug/l		1500Y	420Y	460Y	190Y
SA 88, P-70 Energy Generator	12-252	GW	TPH	TPH-Diesel	ug/l		4500Y		1300Y	850Y
South of Runway 18-36 Area	852	SED	SVOA	2-Methylnaphthalene	ug/kg	6.8J	14	5.5U	20	190
South of Runway 18-36 Area	852	SED	SVOA	Acenaphthene	ug/kg	4.2J	63	58J	130	64
South of Runway 18-36 Area	852	SED	SVOA	Acenaphthylene	ug/kg	8.7U	41U	41U	30U	13Ui
South of Runway 18-36 Area	852	SED	SVOA	Anthracene	ug/kg	12	28	40J	49U	3.7U
South of Runway 18-36 Area	852	SED	SVOA	Benzo(a)anthracene	ug/kg	17J	27	50J	46	11
South of Runway 18-36 Area	852	SED	SVOA	Benzo(a)pyrene	ug/kg	12	28	22J	23	11
South of Runway 18-36 Area	852	SED	SVOA	Benzo(b)fluoranthene	ug/kg	25	44	69	63	29
South of Runway 18-36 Area	852	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	8.7U	33	23	29	14
South of Runway 18-36 Area	852	SED	SVOA	Benzo(k)fluoranthene	ug/kg	9.7	12	25	14	7.9
South of Runway 18-36 Area	852	SED	SVOA	Chrysene	ug/kg	34J	44	180J	30	13
South of Runway 18-36 Area	852	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	8.7U	7.3	5.9J	5.1	2.7J

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	852	SED	SVOA	Fluoranthene	ug/kg	27	130	470J	130	75
South of Runway 18-36 Area	852	SED	SVOA	Fluorene	ug/kg	6.8J	340	330J	93	240
South of Runway 18-36 Area	852	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	8.7U	29	25J	27	15
South of Runway 18-36 Area	852	SED	SVOA	Naphthalene	ug/kg	5.8J	58	36J	46	49
South of Runway 18-36 Area	852	SED	SVOA	Phenanthrene	ug/kg	31	600	81J	120U	160
South of Runway 18-36 Area	852	SED	SVOA	Pyrene	ug/kg	55J	94	600J	200	110
South of Runway 18-36 Area	852	SED	TPH	TPH-Diesel	ug/kg	260000J	1300000DY	500000YJ	2900000Y	4100000DY
South of Runway 18-36 Area	852	SED	TPH	TPH-Gasoline	ug/kg	880U	6600J	1800J	7100U	
South of Runway 18-36 Area	852	SW	SVOA	2-Methylnaphthalene	ug/l	0.10U	0.029	0.021	2.1	1.1
South of Runway 18-36 Area	852	SW	SVOA	Acenaphthene	ug/l	0.10U	0.020J	0.017J	0.55	0.43
South of Runway 18-36 Area	852	SW	SVOA	Acenaphthylene	ug/l	0.10U	0.020U	0.020U	0.083U	0.059Ui
South of Runway 18-36 Area	852	SW	SVOA	Anthracene	ug/l	0.10U	0.020U	0.020U	0.027	0.023
South of Runway 18-36 Area	852	SW	SVOA	Benzo(a)anthracene	ug/l	0.10U	0.020U	0.0065J	0.020U	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Benzo(a)pyrene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.10U	0.020U	0.020U	0.0055J	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Chrysene	ug/l	0.10U	0.020U	0.020U	0.0062J	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Fluoranthene	ug/l	0.050J	0.020U	0.011J	0.028	0.020J
South of Runway 18-36 Area	852	SW	SVOA	Fluorene	ug/l	0.19	0.055	0.043	1.3	0.97
South of Runway 18-36 Area	852	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.10U	0.020U	0.0017J	0.020U	0.020U
South of Runway 18-36 Area	852	SW	SVOA	Naphthalene	ug/l	0.15	0.081	0.073	1.8	1.9
South of Runway 18-36 Area	852	SW	SVOA	Phenanthrene	ug/l	0.060J	0.021U	0.025	0.38	0.41
South of Runway 18-36 Area	852	SW	SVOA	Pyrene	ug/l	0.10U	0.0047J	0.0096J	0.032	0.014J
South of Runway 18-36 Area	852	SW	TPH	TPH-Diesel	ug/l	900	93Z	84J	1000Y	580Y
South of Runway 18-36 Area	852	SW	TPH	TPH-Gasoline	ug/l	56	100U	100U	110H	
South of Runway 18-36 Area	852	SW	VOA	Benzene	ug/l	1.0U	0.16J	0.50U	0.49J	0.24J
South of Runway 18-36 Area	852	SW	VOA	Ethylbenzene	ug/l	1.0U	0.32J	0.070J	1.3	0.55
South of Runway 18-36 Area	852	SW	VOA	m,p-Xylene	ug/l	2.0U	0.54	0.50U	0.66	0.11J
South of Runway 18-36 Area	852	SW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.13J	0.50U
South of Runway 18-36 Area	852	SW	VOA	Toluene	ug/l	1.0U	0.23J	0.70U	0.50U	0.20J
South of Runway 18-36 Area	852	SW	VOA	Xylenes	ug/l	3.0U	0.54	1.0U	0.79J	0.11J
South of Runway 18-36 Area	02-231	GW	SVOA	2-Methylnaphthalene	ug/l	47J	0.067JD	0.15 U	64D	91D
South of Runway 18-36 Area	02-231	GW	SVOA	Acenaphthene	ug/l	1.5J	0.19D	0.55D	1.6D	1.6D
South of Runway 18-36 Area	02-231	GW	SVOA	Acenaphthylene	ug/l	0.40J	0.096U	0.21U	0.49U	0.29Ui
South of Runway 18-36 Area	02-231	GW	SVOA	Anthracene	ug/l	0.10U	0.17D	0.21U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Benzo(a)anthracene	ug/l	0.10U	0.020U	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Benzo(a)pyrene	ug/l	0.10U	0.020U	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Benzo(b)fluoranthene	ug/l	0.10U	0.020U	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Benzo(g,h,i)perylene	ug/l	0.10U	0.0052J	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Benzo(k)fluoranthene	ug/l	0.10U	0.020U	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Chrysene	ug/l	0.10U	0.020U	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Dibenz(a,h)anthracene	ug/l	0.10U	0.0050J	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Fluoranthene	ug/l	0.10U	0.096U	0.21U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Fluorene	ug/l	3.3J	0.096U	0.43D	4.2D	3.7D
South of Runway 18-36 Area	02-231	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.10U	0.0060J	0.021U	0.020U	0.020U
South of Runway 18-36 Area	02-231	GW	SVOA	Naphthalene	ug/l	100J	0.31D	4.5	130D	160D
South of Runway 18-36 Area	02-231	GW	SVOA	Phenanthrene	ug/l	1.4J	0.096U	0.21U	1.3	1.7
South of Runway 18-36 Area	02-231	GW	SVOA	Pyrene	ug/l	0.10U	0.59	0.021U	0.020U	0.011J
South of Runway 18-36 Area	02-231	GW	TPH	TPH-Diesel	ug/l	20000J	18000J	18000YJ	6700Y	7200Y
South of Runway 18-36 Area	02-231	GW	TPH	TPH-Gasoline	ug/l	1800	1700Y	1700YJ	2200Y	
South of Runway 18-36 Area	02-231	GW	VOA	Benzene	ug/l	36	17	24	35	31
South of Runway 18-36 Area	02-231	GW	VOA	Ethylbenzene	ug/l	52	52	52	68	66

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South of Runway 18-36 Area	02-231	GW	VOA	m,p-Xylene	ug/l	220	210D	200D	280D	280D
South of Runway 18-36 Area	02-231	GW	VOA	o-Xylene	ug/l	10	9.4	8.4	9.5	8.5
South of Runway 18-36 Area	02-231	GW	VOA	Toluene	ug/l	2.9	2.1	2.4	2.6	2.9
South of Runway 18-36 Area	02-231	GW	VOA	Xylenes	ug/l	230	219.4D	208.4D	289.5D	288.5D
South of Runway 18-36 Area	02-232	GW	SVOA	2-Methylnaphthalene	ug/l	0.10U	0.020U	0.064	0.029	0.025Ui
South of Runway 18-36 Area	02-232	GW	SVOA	Acenaphthene	ug/l	0.30J	0.042	0.19	0.4	0.43
South of Runway 18-36 Area	02-232	GW	SVOA	Acenaphthylene	ug/l	0.10U	0.020U	0.038U	0.052	0.072Ui
South of Runway 18-36 Area	02-232	GW	SVOA	Anthracene	ug/l	0.10U	0.0089J	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Benzo(a)anthracene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Benzo(a)pyrene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Benzo(b)fluoranthene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Benzo(g,h,i)perylene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Benzo(k)fluoranthene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Chrysene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Dibenz(a,h)anthracene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Fluoranthene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Fluorene	ug/l	0.27J	0.064	0.51	0.5	0.71
South of Runway 18-36 Area	02-232	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	02-232	GW	SVOA	Naphthalene	ug/l	0.42J	0.049U	0.66	0.93	0.61
South of Runway 18-36 Area	02-232	GW	SVOA	Phenanthrene	ug/l	0.14J	0.020U	0.09	0.27	0.14
South of Runway 18-36 Area	02-232	GW	SVOA	Pyrene	ug/l	0.10U	0.014J	0.020U	0.0059J	0.020U
South of Runway 18-36 Area	02-232	GW	TPH	TPH-Diesel	ug/l	2000	1300Y	1400Y	1500Y	2400Y
South of Runway 18-36 Area	02-232	GW	TPH	TPH-Gasoline	ug/l	25U	100U	29J	30J	
South of Runway 18-36 Area	02-232	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U		0.16J
South of Runway 18-36 Area	02-232	GW	VOA	Ethylbenzene	ug/l	1.0U	0.22J	0.21J		0.29J
South of Runway 18-36 Area	02-232	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.12J		0.50U
South of Runway 18-36 Area	02-232	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U		0.50U
South of Runway 18-36 Area	02-232	GW	VOA	Toluene	ug/l	1.0U	0.16J	0.50U		0.50J
South of Runway 18-36 Area	02-232	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.12J		1.0U
South of Runway 18-36 Area	18/36-03	GW	SVOA	2-Methylnaphthalene	ug/l		0.0041J			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Acenaphthene	ug/l		0.0047J			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Acenaphthylene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Anthracene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Benzo(a)anthracene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Benzo(a)pyrene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Benzo(b)fluoranthene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Benzo(g,h,i)perylene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Benzo(k)fluoranthene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Chrysene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Dibenz(a,h)anthracene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Fluoranthene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Fluorene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Naphthalene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Phenanthrene	ug/l		0.020U			
South of Runway 18-36 Area	18/36-03	GW	SVOA	Pyrene	ug/l		0.0090J			
South of Runway 18-36 Area	18/36-03	GW	TPH	TPH-Diesel	ug/l		150Z			
South of Runway 18-36 Area	18/36-03	GW	TPH	TPH-Gasoline	ug/l		100U			
South of Runway 18-36 Area	18/36-03	GW	VOA	Benzene	ug/l		0.50U			
South of Runway 18-36 Area	18/36-03	GW	VOA	Ethylbenzene	ug/l		0.50U			
South of Runway 18-36 Area	18/36-03	GW	VOA	m,p-Xylene	ug/l		0.50U			
South of Runway 18-36 Area	18/36-03	GW	VOA	o-Xylene	ug/l		0.50U			
South of Runway 18-36 Area	18/36-03	GW	VOA	Toluene	ug/l		0.50U			
South of Runway 18-36 Area	18/36-03	GW	VOA	Xylenes	ug/l		1.0U			

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South of Runway 18-36 Area	18/36-05	GW	TPH	TPH-Diesel	ug/l	51U	65Z		50U	
South of Runway 18-36 Area	AS-1	GW	SVOA	2-Methylnaphthalene	ug/l		57D	76D	130D	2.7
South of Runway 18-36 Area	AS-1	GW	SVOA	Acenaphthene	ug/l		1	1.2	1.3	1
South of Runway 18-36 Area	AS-1	GW	SVOA	Acenaphthylene	ug/l		0.44U	0.43U	0.48U	0.41Ui
South of Runway 18-36 Area	AS-1	GW	SVOA	Anthracene	ug/l		0.065	0.045	0.044	0.5
South of Runway 18-36 Area	AS-1	GW	SVOA	Benzo(a)anthracene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Benzo(a)pyrene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Benzo(b)fluoranthene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Benzo(g,h,i)perylene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Benzo(k)fluoranthene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Chrysene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Dibenz(a,h)anthracene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Fluoranthene	ug/l		0.020U	0.020U	0.0056J	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Fluorene	ug/l		3.6	2.9	3.8	3.3
South of Runway 18-36 Area	AS-1	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l		0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	AS-1	GW	SVOA	Naphthalene	ug/l		130D	120D	200D	11D
South of Runway 18-36 Area	AS-1	GW	SVOA	Phenanthrene	ug/l		2.3	1.3	1.7	1.7
South of Runway 18-36 Area	AS-1	GW	SVOA	Pyrene	ug/l		0.012J	0.028	0.0067J	0.0054J
South of Runway 18-36 Area	AS-1	GW	TPH	TPH-Diesel	ug/l		2800Y	3500Y	2700Y	1500Y
South of Runway 18-36 Area	AS-1	GW	TPH	TPH-Gasoline	ug/l		300Y	270Y	350Y	
South of Runway 18-36 Area	AS-1	GW	VOA	Benzene	ug/l		12	10	10	4
South of Runway 18-36 Area	AS-1	GW	VOA	Ethylbenzene	ug/l		35	19	34	15
South of Runway 18-36 Area	AS-1	GW	VOA	m,p-Xylene	ug/l		38	21	35	12
South of Runway 18-36 Area	AS-1	GW	VOA	o-Xylene	ug/l		0.73	0.39J	0.55	0.090J
South of Runway 18-36 Area	AS-1	GW	VOA	Toluene	ug/l		0.42J	0.55U	0.50U	0.50J
South of Runway 18-36 Area	AS-1	GW	VOA	Xylenes	ug/l		38.73	21.39J	35.55	12.09J
South of Runway 18-36 Area	E-206	GW	TPH	TPH-Diesel	ug/l	680	460J	390J	95Y	
South of Runway 18-36 Area	E-208	GW	SVOA	2-Methylnaphthalene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Acenaphthene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Acenaphthylene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Anthracene	ug/l	0.10U	0.020U		0.0085J	
South of Runway 18-36 Area	E-208	GW	SVOA	Benzo(a)anthracene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Benzo(a)pyrene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Benzo(b)fluoranthene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Benzo(g,h,i)perylene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Benzo(k)fluoranthene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Chrysene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Dibenz(a,h)anthracene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Fluoranthene	ug/l	0.10U	0.020U		0.06	
South of Runway 18-36 Area	E-208	GW	SVOA	Fluorene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Naphthalene	ug/l	0.10U	0.020U		0.036	
South of Runway 18-36 Area	E-208	GW	SVOA	Phenanthrene	ug/l	0.10U	0.020U		0.020U	
South of Runway 18-36 Area	E-208	GW	SVOA	Pyrene	ug/l	0.10U	0.0030J		0.038	
South of Runway 18-36 Area	E-208	GW	TPH	TPH-Diesel	ug/l	53U	32J		49U	
South of Runway 18-36 Area	E-208	GW	TPH	TPH-Gasoline	ug/l	25U	100U		100U	
South of Runway 18-36 Area	E-208	GW	VOA	Benzene	ug/l	1.0U	0.50U		0.50U	
South of Runway 18-36 Area	E-208	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U		0.50U	
South of Runway 18-36 Area	E-208	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U		0.50U	
South of Runway 18-36 Area	E-208	GW	VOA	o-Xylene	ug/l	1.0U	0.50U		0.50U	
South of Runway 18-36 Area	E-208	GW	VOA	Toluene	ug/l	1.0U	0.50U		0.50U	
South of Runway 18-36 Area	E-208	GW	VOA	Xylenes	ug/l	3.0U	1.0U		1.0U	
South of Runway 18-36 Area	E-218	GW	SVOA	2-Methylnaphthalene	ug/l	0.14	0.02U	0.12	0.020U	0.43
South of Runway 18-36 Area	E-218	GW	SVOA	Acenaphthene	ug/l	0.10U	0.020U	0.010 J	0.11J	0.086

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South of Runway 18-36 Area	E-218	GW	SVOA	Acenaphthylene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.028Ui
South of Runway 18-36 Area	E-218	GW	SVOA	Anthracene	ug/l	0.10U	0.0034J	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Benzo(a)anthracene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Benzo(a)pyrene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Benzo(b)fluoranthene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Benzo(g,h,i)perylene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Benzo(k)fluoranthene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Chrysene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Dibenz(a,h)anthracene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Fluoranthene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.0084J
South of Runway 18-36 Area	E-218	GW	SVOA	Fluorene	ug/l	0.10U	0.020U	0.017 J	0.0091J	0.18
South of Runway 18-36 Area	E-218	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Naphthalene	ug/l	1.1	0.02U	0.58	0.11	1.4
South of Runway 18-36 Area	E-218	GW	SVOA	Phenanthrene	ug/l	0.10U	0.02U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	SVOA	Pyrene	ug/l	0.10U	0.020U	0.020 U	0.020U	0.020U
South of Runway 18-36 Area	E-218	GW	TPH	TPH-Diesel	ug/l	1700	120J	880Y	220Y	1600Y
South of Runway 18-36 Area	E-218	GW	TPH	TPH-Gasoline	ug/l	25U	100U	17J	100U	
South of Runway 18-36 Area	E-218	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U		0.090J
South of Runway 18-36 Area	E-218	GW	VOA	Ethylbenzene	ug/l	0.61J	0.50U	0.34J		1.1
South of Runway 18-36 Area	E-218	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.53		5.2
South of Runway 18-36 Area	E-218	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.12J		0.29J
South of Runway 18-36 Area	E-218	GW	VOA	Toluene	ug/l	1.0U	0.14J	0.50U		0.50J
South of Runway 18-36 Area	E-218	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.65J		5.49J
South of Runway 18-36 Area	MRP-12	GW	TPH	TPH-Diesel	ug/l	52	36J		52U	
South of Runway 18-36 Area	NL-02	SW	SVOA	2-Methylnaphthalene	ug/l		0.0035J			
South of Runway 18-36 Area	NL-02	SW	SVOA	Acenaphthene	ug/l		0.0045J			
South of Runway 18-36 Area	NL-02	SW	SVOA	Acenaphthylene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Anthracene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Benzo(a)anthracene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Benzo(a)pyrene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Benzo(b)fluoranthene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Benzo(g,h,i)perylene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Benzo(k)fluoranthene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Chrysene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Dibenz(a,h)anthracene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Fluoranthene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Fluorene	ug/l		0.0040J			
South of Runway 18-36 Area	NL-02	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Naphthalene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Phenanthrene	ug/l		0.020U			
South of Runway 18-36 Area	NL-02	SW	SVOA	Pyrene	ug/l		0.0039J			
South of Runway 18-36 Area	NL-02	SW	TPH	TPH-Diesel	ug/l		92Z			
South of Runway 18-36 Area	NL-02	SW	VOA	Benzene	ug/l		0.50U			
South of Runway 18-36 Area	NL-02	SW	VOA	Ethylbenzene	ug/l		0.50U			
South of Runway 18-36 Area	NL-02	SW	VOA	m,p-Xylene	ug/l		0.23J			
South of Runway 18-36 Area	NL-02	SW	VOA	o-Xylene	ug/l		0.50U			
South of Runway 18-36 Area	NL-02	SW	VOA	Toluene	ug/l		0.11J			
South of Runway 18-36 Area	NL-02	SW	VOA	Xylenes	ug/l		0.23J			
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	2-Methylnaphthalene	ug/kg	48U	0.88J	8.6	23JD	11
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Acenaphthene	ug/kg	48UJ	0.53J	4.7J	240U	0.98JX
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Acenaphthylene	ug/kg	48UJ	0.31J	5.5	37U	3.1U
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Anthracene	ug/kg	48U	3.1J	16	320U	20Ui
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Benzo(a)anthracene	ug/kg	20J	3.2J	17	29	4
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Benzo(a)pyrene	ug/kg	48UJ	4.4J	52	14	23

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Benzo(b)fluoranthene	ug/kg	25J	7.1J	38	38	32
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	48U	9.2	120	14	25
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Benzo(k)fluoranthene	ug/kg	23UJ	2.5J	11	8.6	9.4
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Chrysene	ug/kg	22UJ	4.4J	32	46	22
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	48U	1.4J	26	4.1	4.3
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Fluoranthene	ug/kg	31J	9.4J	41	250D	24
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Fluorene	ug/kg	48UJ	0.49J	6.2	110U	3.2U
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	48U	6.9	71	12	23
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Naphthalene	ug/kg	48U	2.8UJ	14	37U	3.2
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Phenanthrene	ug/kg	31J	6.0J	31	570U	21Ui
South of Runway 18-36 Area	NSWSD-1	SED	SVOA	Pyrene	ug/kg	40J	7.5J	48	230	50
South of Runway 18-36 Area	NSWSD-1	SED	TPH	TPH-Diesel	ug/kg	330000J	280000Y	22000HJ	14000000YH	1800000Y
South of Runway 18-36 Area	NSWSD-1	SED	TPH	TPH-Gasoline	ug/kg	910U	1900U	6900U	4400U	
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	2-Methylnaphthalene	ug/l	0.096U	0.0099J	0.020U	0.021U	0.0037J
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Acenaphthene	ug/l	0.096U	0.012J	0.0059J	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Acenaphthylene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Anthracene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Benzo(a)anthracene	ug/l	0.096U	0.0037J	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Benzo(a)pyrene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Chrysene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Fluoranthene	ug/l	0.096U	0.0098J	0.020U	0.0069J	0.0051J
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Fluorene	ug/l	0.096U	0.012J	0.0058J	0.0028J	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.096U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Naphthalene	ug/l	0.11	0.064	0.05	0.010J	0.0070J
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Phenanthrene	ug/l	0.096U	0.0083J	0.020U	0.021U	0.020Ui
South of Runway 18-36 Area	NSWSD-1	SW	SVOA	Pyrene	ug/l	0.096U	0.0054J	0.020U	0.021U	0.0053J
South of Runway 18-36 Area	NSWSD-1	SW	TPH	TPH-Diesel	ug/l	200	97U	81J	70U	140Y
South of Runway 18-36 Area	NSWSD-1	SW	TPH	TPH-Gasoline	ug/l	34	42J	21J	100U	
South of Runway 18-36 Area	NSWSD-1	SW	VOA	Benzene	ug/l	1.0U	0.48J	0.13J	0.50U	0.16J
South of Runway 18-36 Area	NSWSD-1	SW	VOA	Ethylbenzene	ug/l	0.54J	0.94	0.17J	0.50U	0.32J
South of Runway 18-36 Area	NSWSD-1	SW	VOA	m,p-Xylene	ug/l	1.7J	1.7	0.66	0.50U	0.8
South of Runway 18-36 Area	NSWSD-1	SW	VOA	o-Xylene	ug/l	1.0U	0.17J	0.070J	0.50U	0.50U
South of Runway 18-36 Area	NSWSD-1	SW	VOA	Toluene	ug/l	1.0U	0.43J	0.54U	0.50U	0.53
South of Runway 18-36 Area	NSWSD-1	SW	VOA	Xylenes	ug/l	1.7J	1.87J	0.73J	1.0U	0.8
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	2-Methylnaphthalene	ug/kg	48U	3.2	9.4	140JD	2.7J
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Acenaphthene	ug/kg	48UJ	2.6U	2.1J	350U	1.9JX
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Acenaphthylene	ug/kg	48UJ	2.6U	4.9U	71U	3.2U
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Anthracene	ug/kg	48U	7.3U	28U	470U	71Ui
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Benzo(a)anthracene	ug/kg	48UJ	4.8	4.9U	53	2.7J
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Benzo(a)pyrene	ug/kg	48UJ	15	4.9U	31	9.7
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Benzo(b)fluoranthene	ug/kg	48U	23	4.9U	40	16
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	48U	20	15	14	7.6
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Benzo(k)fluoranthene	ug/kg	48UJ	6.2	4.9U	7.7	4.6
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Chrysene	ug/kg	20J	16	4.9U	130	11
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	48U	4.5	4.9U	4.1	1.7J
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Fluoranthene	ug/kg	48UJ	14	3.6J	320D	34
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Fluorene	ug/kg	48UJ	2.6U	4.9U	140U	7.6Ui
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	48U	20	4.8J	13	8.4
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Naphthalene	ug/kg	48U	2.8U	16	64U	3.2J
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Phenanthrene	ug/kg	48U	12	15U	350U	54Ui

Summary of Analytical Results 2006 through 2010
Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	NSWSD-2	SED	SVOA	Pyrene	ug/kg	48U	36	8.3J	170	41
South of Runway 18-36 Area	NSWSD-2	SED	TPH	TPH-Diesel	ug/kg	270000J	550000Y	390000YJ	15000000YHJ	1600000Y
South of Runway 18-36 Area	NSWSD-2	SED	TPH	TPH-Gasoline	ug/kg	740U	2900U	3800U	3500U	
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	2-Methylnaphthalene	ug/l	0.099U	0.0031J	0.020U	0.046	0.0042J
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Acenaphthene	ug/l	0.099U	0.0037J	0.020U	0.0075J	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Acenaphthylene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Anthracene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Benzo(a)anthracene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Benzo(a)pyrene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Chrysene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Fluoranthene	ug/l	0.099U	0.020U	0.020U	0.0056J	0.0050J
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Fluorene	ug/l	0.099U	0.0046J	0.0027J	0.014J	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Naphthalene	ug/l	0.054J	0.031U	0.014J	0.25	0.014J
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Phenanthrene	ug/l	0.099U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-2	SW	SVOA	Pyrene	ug/l	0.099U	0.020U	0.020U	0.0046J	0.0045J
South of Runway 18-36 Area	NSWSD-2	SW	TPH	TPH-Diesel	ug/l	260	29J	96U	180Y	110Y
South of Runway 18-36 Area	NSWSD-2	SW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	32J	
South of Runway 18-36 Area	NSWSD-2	SW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.37J	0.15J
South of Runway 18-36 Area	NSWSD-2	SW	VOA	Ethylbenzene	ug/l	0.53J	0.50U	0.50U	0.68	0.33J
South of Runway 18-36 Area	NSWSD-2	SW	VOA	m,p-Xylene	ug/l	1.3J	0.50U	0.50U	2.1	0.79
South of Runway 18-36 Area	NSWSD-2	SW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.17J	0.50U
South of Runway 18-36 Area	NSWSD-2	SW	VOA	Toluene	ug/l	1.0U	0.11J	0.51U	0.50U	0.50J
South of Runway 18-36 Area	NSWSD-2	SW	VOA	Xylenes	ug/l	1.3J	1.0U	1.0U	2.27J	0.79
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	2-Methylnaphthalene	ug/kg	8.5U	0.62J	9.9D	1.5J	2.6J
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Acenaphthene	ug/kg	8.5U	0.23J	9.8U	0.88J	18X
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Acenaphthylene	ug/kg	8.5U	0.46J	23D	3.3U	3.2Ui
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Anthracene	ug/kg	8.5U	1.6J	92U	2.8J	190Ui
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Benzo(a)anthracene	ug/kg	3.5J	5.7	21D	1.7J	8.6
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Benzo(a)pyrene	ug/kg	8.5U	6	27D	3.3	23
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Benzo(b)fluoranthene	ug/kg	8.5U	8.1	33D	7.5	33
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	8.5U	5.6	60D	4.9	19
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Benzo(k)fluoranthene	ug/kg	8.5U	2.8J	12D	1.9J	8.4
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Chrysene	ug/kg	3.5J	10	16D	3.0J	22
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	8.5U	1.0J	9.8JD	3.3U	4.3
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Fluoranthene	ug/kg	7.9J	9	49U	9.8	82
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Fluorene	ug/kg	8.5U	0.32J	9.8U	2.1J	3.2U
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	8.5U	5.5	52D	4	20
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Naphthalene	ug/kg	8.5U	2.8U	15D	3.8U	5.2
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Phenanthrene	ug/kg	4.7J	3.8	64U	8.1	110Ui
South of Runway 18-36 Area	NSWSD-3	SED	SVOA	Pyrene	ug/kg	12	10	150D	17	110
South of Runway 18-36 Area	NSWSD-3	SED	TPH	TPH-Diesel	ug/kg	74000	190000Y	1800000YJ	510000YH	2000000Y
South of Runway 18-36 Area	NSWSD-3	SED	TPH	TPH-Gasoline	ug/kg	750U	2300U	3600J	4000U	
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	2-Methylnaphthalene	ug/l	0.096U	0.0030J	0.020U	0.022	0.0029J
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Acenaphthene	ug/l	0.096U	0.0043J	0.0053J	0.014J	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Acenaphthylene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Anthracene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Benzo(a)anthracene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Benzo(a)pyrene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.096U	0.020U	0.0049J	0.020U	0.020U

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Groundwater, Surface Water, and Sediment
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.096U	0.020U	0.0034J	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Chrysene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Fluoranthene	ug/l	0.096U	0.020U	0.020U	0.0070J	0.0051J
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Fluorene	ug/l	0.096U	0.0043J	0.0077J	0.019J	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.096U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Naphthalene	ug/l	0.091J	0.020U	0.061	0.14	0.0064J
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Phenanthrene	ug/l	0.048J	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-3	SW	SVOA	Pyrene	ug/l	0.096U	0.020U	0.020U	0.0061J	0.0050J
South of Runway 18-36 Area	NSWSD-3	SW	TPH	TPH-Diesel	ug/l	160	38J	61J	140Y	120Y
South of Runway 18-36 Area	NSWSD-3	SW	TPH	TPH-Gasoline	ug/l	28	100U	100U	29J	
South of Runway 18-36 Area	NSWSD-3	SW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.42J	0.17J
South of Runway 18-36 Area	NSWSD-3	SW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.58	0.28J
South of Runway 18-36 Area	NSWSD-3	SW	VOA	m,p-Xylene	ug/l	1.3J	0.50U	0.50U	1.7	0.64
South of Runway 18-36 Area	NSWSD-3	SW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.13J	0.50U
South of Runway 18-36 Area	NSWSD-3	SW	VOA	Toluene	ug/l	1.0U	0.50U	0.62U	0.50U	0.50J
South of Runway 18-36 Area	NSWSD-3	SW	VOA	Xylenes	ug/l	1.3J	1.0U	1.0U	1.83J	0.64
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	2-Methylnaphthalene	ug/kg	8.4U	2.5J	2.5J	2.1J	2.7J
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Acenaphthene	ug/kg	240	3.4	86J	21	3.7
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Acenaphthylene	ug/kg	52	19	16J	2.2J	8.2
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Anthracene	ug/kg	58	22	9.0J	18	17
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Benzo(a)anthracene	ug/kg	100	130	27J	89	42
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Benzo(a)pyrene	ug/kg	290	120	31J	60	50
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Benzo(b)fluoranthene	ug/kg	300	250	59	120	64
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	280	150	41	38	43
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Benzo(k)fluoranthene	ug/kg	83	64	19	42	23
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Chrysene	ug/kg	130	85	48J	130	62
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	80	30	10J	8.8	9.5
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Fluoranthene	ug/kg	170	610	140J	240	120
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Fluorene	ug/kg	210	6.8	13J	6.4	9.9
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	310	130	42J	39	48
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Naphthalene	ug/kg	14	3.6U	11J	3.6U	5.2
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Phenanthrene	ug/kg	91	120	32J	69	89
South of Runway 18-36 Area	NSWSD-4	SED	SVOA	Pyrene	ug/kg	160	270	100J	110	100
South of Runway 18-36 Area	NSWSD-4	SED	TPH	TPH-Diesel	ug/kg	330000	270000Y	160000YJ	120000YH	130000Y
South of Runway 18-36 Area	NSWSD-4	SED	TPH	TPH-Gasoline	ug/kg	1000	2700U	4900U	4400U	
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	2-Methylnaphthalene	ug/l	0.096U	0.013J	0.0033J	0.020U	0.021U
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Acenaphthene	ug/l	0.096U	0.0070J	0.016J	0.020U	0.021U
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Acenaphthylene	ug/l	0.096U	0.020U	0.020U	0.020U	0.021U
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Anthracene	ug/l	0.096U	0.020U	0.020U	0.020U	0.021U
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Benzo(a)anthracene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0078J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Benzo(a)pyrene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0047J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0072J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0073J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0040J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Chrysene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0069J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0047J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Fluoranthene	ug/l	0.096U	0.020U	0.011J	0.0065J	0.0080J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Fluorene	ug/l	0.096U	0.0092J	0.018J	0.0031J	0.021U
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.096U	0.020U	0.020U	0.020U	0.0065J
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Naphthalene	ug/l	0.19	0.075	0.055	0.019J	0.021U
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Phenanthrene	ug/l	0.096U	0.020U	0.020U	0.020U	0.021U
South of Runway 18-36 Area	NSWSD-4	SW	SVOA	Pyrene	ug/l	0.096U	0.0047J	0.0086J	0.0050J	0.011J

Summary of Analytical Results 2006 through 2010
Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	NSWSD-4	SW	TPH	TPH-Diesel	ug/l	63	73Z	120Z	74Y	77Y
South of Runway 18-36 Area	NSWSD-4	SW	TPH	TPH-Gasoline	ug/l	25U	100U	31J	100U	
South of Runway 18-36 Area	NSWSD-4	SW	VOA	Benzene	ug/l	1.0U	0.42J	0.51	0.50U	0.15J
South of Runway 18-36 Area	NSWSD-4	SW	VOA	Ethylbenzene	ug/l	1.0U	0.8	0.6	0.50U	0.26J
South of Runway 18-36 Area	NSWSD-4	SW	VOA	m,p-Xylene	ug/l	1.1J	1.7	1.5	0.50U	0.52
South of Runway 18-36 Area	NSWSD-4	SW	VOA	o-Xylene	ug/l	1.0U	0.15J	0.14J	0.50U	0.50U
South of Runway 18-36 Area	NSWSD-4	SW	VOA	Toluene	ug/l	1.0U	0.42J	0.81 U	0.50U	0.50J
South of Runway 18-36 Area	NSWSD-4	SW	VOA	Xylenes	ug/l	1.1J	1.85J	1.64J	1.0U	0.52
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	2-Methylnaphthalene	ug/kg	8.3U	2.3J	0.52J	2.5J	3.5
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Acenaphthene	ug/kg	14	1.1J	4.9U	4.6	5.4X
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Acenaphthylene	ug/kg	6.2J	0.48J	4.9U	2.8J	3.7Ui
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Anthracene	ug/kg	25	3.9	4.9U	7.1U	12X
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Benzo(a)anthracene	ug/kg	8.0J	6.5	3.5J	16	13
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Benzo(a)pyrene	ug/kg	7.1J	6.2	3.2J	15	17
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Benzo(b)fluoranthene	ug/kg	17	11	5.5	26	23
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	9.9	9.4	6.4	20	18
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Benzo(k)fluoranthene	ug/kg	7.4J	3.9	2.5J	5.8	5.8
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Chrysene	ug/kg	24	15	4.5J	19	20
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	8.3U	1.4J	2.5J	5.9	4.5
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Fluoranthene	ug/kg	43	16	5.6J	41	29
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Fluorene	ug/kg	8.3U	1.3J	4.9U	2.9J	3.5
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	8.3U	7.9	5.3J	13	16
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Naphthalene	ug/kg	7.7J	2.7U	0.90J	3.4U	3.0J
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Phenanthrene	ug/kg	20	9.9	4.9U	7.2U	11Ui
South of Runway 18-36 Area	NSWSD-5	SED	SVOA	Pyrene	ug/kg	51	13	6.4J	44	42
South of Runway 18-36 Area	NSWSD-5	SED	TPH	TPH-Diesel	ug/kg	250000	100000Y	36000J	280000YHJ	340000Y
South of Runway 18-36 Area	NSWSD-5	SED	TPH	TPH-Gasoline	ug/kg	690U	2300U	3700U	2900U	
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	2-Methylnaphthalene	ug/l	0.097U	0.013J	0.0035J	0.015J	0.0026J
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Acenaphthene	ug/l	0.097U	0.0089J	0.0086J	0.011J	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Acenaphthylene	ug/l	0.097U	0.020U	0.0035J	0.0028J	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Anthracene	ug/l	0.097U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Benzo(a)anthracene	ug/l	0.097U	0.0031J	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Benzo(a)pyrene	ug/l	0.097U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.097U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.097U	0.020U	0.0022J	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.097U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Chrysene	ug/l	0.097U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.097U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Fluoranthene	ug/l	0.097U	0.020U	0.013J	0.0064J	0.0055J
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Fluorene	ug/l	0.097U	0.016J	0.0088J	0.018J	0.0067J
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.097U	0.020U	0.0025J	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Naphthalene	ug/l	0.12	0.058	0.048	0.12	0.0046J
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Phenanthrene	ug/l	0.053J	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-5	SW	SVOA	Pyrene	ug/l	0.097U	0.0058J	0.0070J	0.0057J	0.0059J
South of Runway 18-36 Area	NSWSD-5	SW	TPH	TPH-Diesel	ug/l	190	93Z	85J	120Y	98Y
South of Runway 18-36 Area	NSWSD-5	SW	TPH	TPH-Gasoline	ug/l	30	29J	16J	35J	
South of Runway 18-36 Area	NSWSD-5	SW	VOA	Benzene	ug/l	1.0U	0.21J	0.11J	0.16J	0.13J
South of Runway 18-36 Area	NSWSD-5	SW	VOA	Ethylbenzene	ug/l	1.0U	0.40J	0.17J	0.38J	0.27J
South of Runway 18-36 Area	NSWSD-5	SW	VOA	m,p-Xylene	ug/l	1.1J	0.87	0.55	0.76	0.52
South of Runway 18-36 Area	NSWSD-5	SW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
South of Runway 18-36 Area	NSWSD-5	SW	VOA	Toluene	ug/l	1.0U	0.26J	1U	0.50U	0.50U
South of Runway 18-36 Area	NSWSD-5	SW	VOA	Xylenes	ug/l	1.1J	0.87	0.55	0.76	0.52
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	2-Methylnaphthalene	ug/kg	8.6U	0.53J	1.2J	1.1J	0.70J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Acenaphthene	ug/kg	8.6UJ	2.6U	0.52J	0.62J	0.61J

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Acenaphthylene	ug/kg	8.6UJ	2.6U	0.99J	3.3U	3.3U
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Anthracene	ug/kg	8.6U	0.40J	1.4J	0.63J	0.78J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Benzo(a)anthracene	ug/kg	4.8J	2.6U	2.8J	1.8J	2.2J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Benzo(a)pyrene	ug/kg	3.5J	1.4J	3.2J	2.5J	2.3J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Benzo(b)fluoranthene	ug/kg	7.7J	3	6.6	3.7	4.5
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	8.6UJ	2.6U	5.5	2.2J	2.5J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Benzo(k)fluoranthene	ug/kg	7.7UJ	1.1J	2.1J	1.1J	1.8J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Chrysene	ug/kg	3.8J	2.6U	5.1J	4.5	4.6
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	8.6UJ	0.39J	5.0UJ	3.3U	3.3U
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Fluoranthene	ug/kg	17J	3.2	3.7J	6.1	6.3
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Fluorene	ug/kg	8.6UJ	2.6U	1.1J	3.3U	0.64J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	8.6UJ	2.6U	5.7J	1.8J	2.6J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Naphthalene	ug/kg	8.6U	2.6U	1.3J	3.3U	0.90J
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Phenanthrene	ug/kg	4.8J	0.91J	2.0J	3.8	4.5
South of Runway 18-36 Area	NSWSD-6	SED	SVOA	Pyrene	ug/kg	18	2.9	4.3J	5	5.3
South of Runway 18-36 Area	NSWSD-6	SED	TPH	TPH-Diesel	ug/kg	44000	53000H	17000HJ	74000YH	71000Y
South of Runway 18-36 Area	NSWSD-6	SED	TPH	TPH-Gasoline	ug/kg	1100U	2100U	4100U	3700U	
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	2-Methylnaphthalene	ug/l	0.099U	0.0093J	0.020U	0.021U	0.021
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Acenaphthene	ug/l	0.099U	0.0052J	0.020U	0.027	0.021
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Acenaphthylene	ug/l	0.099U	0.020U	0.020U	0.021U	0.0050J
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Anthracene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Benzo(a)anthracene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020J
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Benzo(a)pyrene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.099U	0.020U	0.020U	0.0031J	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Chrysene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Fluoranthene	ug/l	0.099U	0.020U	0.0036J	0.011J	0.020J
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Fluorene	ug/l	0.099U	0.0063J	0.020U	0.017J	0.017J
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.099U	0.020U	0.020U	0.021U	0.020U
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Naphthalene	ug/l	0.13J	0.039	0.020U	0.049	0.13B
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Phenanthrene	ug/l	0.099U	0.020U	0.020U	0.021U	0.011J
South of Runway 18-36 Area	NSWSD-6	SW	SVOA	Pyrene	ug/l	0.099U	0.0045J	0.020U	0.010J	0.0073J
South of Runway 18-36 Area	NSWSD-6	SW	TPH	TPH-Diesel	ug/l	170	63Z	27J	60U	120Y
South of Runway 18-36 Area	NSWSD-6	SW	TPH	TPH-Gasoline	ug/l	30	100U	100U	100U	
South of Runway 18-36 Area	NSWSD-6	SW	VOA	Benzene	ug/l	1.0U	0.18J	0.50U	0.070J	0.25J
South of Runway 18-36 Area	NSWSD-6	SW	VOA	Ethylbenzene	ug/l	1.0U	0.32J	0.50U	0.50U	0.35J
South of Runway 18-36 Area	NSWSD-6	SW	VOA	m,p-Xylene	ug/l	1.3J	0.62	0.50U	0.50U	1.2
South of Runway 18-36 Area	NSWSD-6	SW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.090J
South of Runway 18-36 Area	NSWSD-6	SW	VOA	Toluene	ug/l	1.0U	0.18J	0.50U	0.50U	0.30J
South of Runway 18-36 Area	NSWSD-6	SW	VOA	Xylenes	ug/l	1.3J	0.62	1.0U	1.0U	1.29J
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	2-Methylnaphthalene	ug/kg	8.5U	2.9U	4.9U	1.1J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Acenaphthene	ug/kg	8.5U	2.9U	0.28J	0.55J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Acenaphthylene	ug/kg	8.5U	2.9U	4.9U	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Anthracene	ug/kg	8.5U	2.9U	0.95J	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Benzo(a)anthracene	ug/kg	8.5U	2.9U	4.9UJ	0.99J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Benzo(a)pyrene	ug/kg	8.5U	2.9U	2.1J	1.2J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Benzo(b)fluoranthene	ug/kg	8.5U	1.5J	2.6J	2.0J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	8.5U	1.1J	2.8J	1.3J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Benzo(k)fluoranthene	ug/kg	8.5U	2.9U	1.3J	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Chrysene	ug/kg	8.5U	2.9U	2.2J	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	8.5U	2.9U	4.9UJ	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Fluoranthene	ug/kg	8.5U	2.9U	3.8J	1.7J	3.2U

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Fluorene	ug/kg	8.5U	2.9U	0.46J	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	8.5U	2.9U	2.6J	1.1J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Naphthalene	ug/kg	8.5U	2.9U	0.41J	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Phenanthrene	ug/kg	8.5U	2.9U	2.4J	3.4U	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	SVOA	Pyrene	ug/kg	8.5U	2.9U	4.6J	1.4J	3.2U
South of Runway 18-36 Area	NSWSD-7	SED	TPH	TPH-Diesel	ug/kg	7300	12000J	11000UJ	27000U	7100J
South of Runway 18-36 Area	NSWSD-7	SED	TPH	TPH-Gasoline	ug/kg	730U	2100U	4000U	4000U	
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	2-Methylnaphthalene	ug/l	0.098U	0.0083J	0.0027J	0.020U	0.021
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Acenaphthene	ug/l	0.098U	0.0041J	0.020U	0.023	0.024
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Acenaphthylene	ug/l	0.098U	0.020U	0.020U	0.020U	0.0054J
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Anthracene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Benzo(a)anthracene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Benzo(a)pyrene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Chrysene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Fluoranthene	ug/l	0.098U	0.020U	0.0048J	0.011J	0.020J
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Fluorene	ug/l	0.098U	0.0058J	0.020U	0.016J	0.016J
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.098U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Naphthalene	ug/l	0.13	0.037U	0.020U	0.059	0.13B
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Phenanthrene	ug/l	0.098U	0.020U	0.020U	0.020U	0.010J
South of Runway 18-36 Area	NSWSD-7	SW	SVOA	Pyrene	ug/l	0.098U	0.0034J	0.020U	0.010J	0.0064J
South of Runway 18-36 Area	NSWSD-7	SW	TPH	TPH-Diesel	ug/l	170	46J	14J	96Y	100Y
South of Runway 18-36 Area	NSWSD-7	SW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	
South of Runway 18-36 Area	NSWSD-7	SW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.080J	0.22J
South of Runway 18-36 Area	NSWSD-7	SW	VOA	Ethylbenzene	ug/l	1.0U	0.22J	0.50U	0.070J	0.34J
South of Runway 18-36 Area	NSWSD-7	SW	VOA	m,p-Xylene	ug/l	0.96J	0.36J	0.50U	0.16J	1.2
South of Runway 18-36 Area	NSWSD-7	SW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.090J
South of Runway 18-36 Area	NSWSD-7	SW	VOA	Toluene	ug/l	1.0U	0.13J	0.85U	0.50U	0.38J
South of Runway 18-36 Area	NSWSD-7	SW	VOA	Xylenes	ug/l	0.96J	0.36J	1.0U	0.16J	1.29J
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	2-Methylnaphthalene	ug/kg	8.6U	0.47J	12	1.7J	3.1U
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Acenaphthene	ug/kg	8.6U	0.39J	6.4	1.4J	0.86J
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Acenaphthylene	ug/kg	8.6U	2.9U	4.7J	0.92J	3.1U
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Anthracene	ug/kg	8.6U	1.3J	17	8.1	2.5J
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Benzo(a)anthracene	ug/kg	8.6U	3.9J	11	59	16
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Benzo(a)pyrene	ug/kg	8.6UJ	5.3J	13	35	16
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Benzo(b)fluoranthene	ug/kg	8.6UJ	11	18	57	31
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Benzo(g,h,i)perylene	ug/kg	8.6UJ	6.4	33	31	14
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Benzo(k)fluoranthene	ug/kg	8.6UJ	3.5	7.6	18	9.5
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Chrysene	ug/kg	8.6U	5.5J	16	57	21
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Dibenz(a,h)anthracene	ug/kg	8.6UJ	1.3J	4.9U	5.9	2.8J
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Fluoranthene	ug/kg	6.4J	32	21	96	51
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Fluorene	ug/kg	8.6U	0.51J	7.8	1.3J	1.2J
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg	8.6UJ	6.1	29	24	15
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Naphthalene	ug/kg	8.6U	3.3J	29	3.2U	3.1U
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Phenanthrene	ug/kg	8.6U	13	32	16	10
South of Runway 18-36 Area	NSWSD-8	SED	SVOA	Pyrene	ug/kg	11	20	29	110	39
South of Runway 18-36 Area	NSWSD-8	SED	TPH	TPH-Diesel	ug/kg	180000	94000H	380000YJ	120000YH	200000Y
South of Runway 18-36 Area	NSWSD-8	SED	TPH	TPH-Gasoline	ug/kg	790U	2000U	8000U	3000U	
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	2-Methylnaphthalene	ug/l	0.10U	0.0035J	0.020U	0.019J	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Acenaphthene	ug/l	0.10U	0.0045J	0.020U	0.011J	0.0054J
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Acenaphthylene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Anthracene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Benzo(a)anthracene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Benzo(a)pyrene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Benzo(b)fluoranthene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Benzo(g,h,i)perylene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Benzo(k)fluoranthene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Chrysene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Dibenz(a,h)anthracene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Fluoranthene	ug/l	0.10U	0.0042J	0.020U	0.010J	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Fluorene	ug/l	0.10U	0.0037J	0.0041J	0.024	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.10U	0.020U	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Naphthalene	ug/l	0.10U	0.020U	0.032	0.14	0.020BJ
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Phenanthrene	ug/l	0.10U	0.0044J	0.020U	0.020U	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	SVOA	Pyrene	ug/l	0.10U	0.0037J	0.020U	0.0088J	0.020U
South of Runway 18-36 Area	NSWSD-8	SW	TPH	TPH-Diesel	ug/l	49	49U	130Y	180Y	50J
South of Runway 18-36 Area	NSWSD-8	SW	TPH	TPH-Gasoline	ug/l	25U	100U	24J	44J	
South of Runway 18-36 Area	NSWSD-8	SW	VOA	Benzene	ug/l	1.0U	0.50U	0.23J	0.51	0.50U
South of Runway 18-36 Area	NSWSD-8	SW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.26J	0.93	0.50U
South of Runway 18-36 Area	NSWSD-8	SW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	1.1	2.8	0.50U
South of Runway 18-36 Area	NSWSD-8	SW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.11J	0.22J	0.50U
South of Runway 18-36 Area	NSWSD-8	SW	VOA	Toluene	ug/l	1.0U	0.11J	0.50U	0.50U	0.12J
South of Runway 18-36 Area	NSWSD-8	SW	VOA	Xylenes	ug/l	3.0U	1.0U	1.21J	3.02J	1.0U
SWMU 14, Old Pesticide Disposal Area	01-153	GW	DIN	Lead	ug/l	18.2	15	14.3	3.79	
SWMU 14, Old Pesticide Disposal Area	01-153	GW	TIN	Lead	ug/l	18.7	16.7	14.2	3.65	
SWMU 14, Old Pesticide Disposal Area	01-153	GW	TPH	TPH-Diesel	ug/l	860		430Y		
SWMU 14, Old Pesticide Disposal Area	01-153	GW	TPH	TPH-Gasoline	ug/l	190		100Z		
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	1,1-Dichloroethene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	Benzene	ug/l	1.0U		0.50U		
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	cis-1,2-Dichloroethene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	Ethylbenzene	ug/l	8.7		0.34J		
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	m,p-Xylene	ug/l	11		0.5		
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	o-Xylene	ug/l	1.0U		0.50U		
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	Tetrachloroethene	ug/l	11	8.2	7.2	3.6	6
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	Toluene	ug/l	0.69J		1.1U		
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	trans-1,2-Dichloroethene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	Trichloroethene	ug/l	1.0U	0.27J	0.18J	0.50U	0.19J
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	Vinyl chloride	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 14, Old Pesticide Disposal Area	01-153	GW	VOA	Xylenes	ug/l	11		0.5		
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	DIN	Lead	ug/l	15.0	36.8J	23.8	17.5	14
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	TIN	Lead	ug/l	14.7	41.5J	24.3	16.7	14.5
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	TPH	TPH-Diesel	ug/l	2100	4100Z	2500Z	3200Y	1900Z
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	TPH	TPH-Gasoline	ug/l	9900	14000DY	11000DY	15000DY	9000DY
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	VOA	Benzene	ug/l	1.0U				
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	VOA	Ethylbenzene	ug/l	290				
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	VOA	m,p-Xylene	ug/l	1800				
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	VOA	Methylene chloride	ug/l	1.0U				
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	VOA	o-Xylene	ug/l	830				
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	VOA	Toluene	ug/l	3.5				
SWMU 14, Old Pesticide Disposal Area	MW-14-5	GW	VOA	Xylenes	ug/l	2630				
SWMU 15, Future Jobs/DRMO	MW15-3	GW	DIN	Lead	ug/l					0.061
SWMU 15, Future Jobs/DRMO	MW15-3	GW	TIN	Lead	ug/l					0.579
SWMU 15, Future Jobs/DRMO	MW15-3	GW	TPH	TPH-Diesel	ug/l					50B
SWMU 15, Future Jobs/DRMO	MW15-3	GW	TPH	TPH-Gasoline	ug/l					21J
SWMU 15, Future Jobs/DRMO	MW15-3	GW	VOA	1,1-Dichloroethene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U

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SWMU 15, Future Jobs/DRMO	MW15-3	GW	VOA	cis-1,2-Dichloroethene	ug/l	1.0U	9.8	4.1	0.32J	0.9
SWMU 15, Future Jobs/DRMO	MW15-3	GW	VOA	Tetrachloroethene	ug/l	7.9	6.6	3.2	8.1	4.2
SWMU 15, Future Jobs/DRMO	MW15-3	GW	VOA	trans-1,2-Dichloroethene	ug/l	1.0U	0.48J	0.30J	0.50U	0.50U
SWMU 15, Future Jobs/DRMO	MW15-3	GW	VOA	Trichloroethene	ug/l	3.4	8	6.8	2.7	4.5
SWMU 15, Future Jobs/DRMO	MW15-3	GW	VOA	Vinyl chloride	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 17, Power Plant Area	05-375	GW	TPH	TPH-Diesel	ug/l	680	760Y	640Y		690Y
SWMU 17, Power Plant Area	05-375	GW	TPH	TPH-Gasoline	ug/l	41				
SWMU 17, Power Plant Area	05-375	GW	VOA	Benzene	ug/l	0.85J				
SWMU 17, Power Plant Area	05-375	GW	VOA	Ethylbenzene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-375	GW	VOA	m,p-Xylene	ug/l	2.0U				
SWMU 17, Power Plant Area	05-375	GW	VOA	o-Xylene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-375	GW	VOA	Toluene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-375	GW	VOA	Xylenes	ug/l	3.0U				
SWMU 17, Power Plant Area	05-735	GW	VOA	1,1-Dichloroethene	ug/l	1.1	0.90JD	0.95	0.74	0.96
SWMU 17, Power Plant Area	05-735	GW	VOA	Benzene	ug/l			0.080J		
SWMU 17, Power Plant Area	05-735	GW	VOA	cis-1,2-Dichloroethene	ug/l	420	570D	340JD	340D	400D
SWMU 17, Power Plant Area	05-735	GW	VOA	Ethylbenzene	ug/l			0.50U		
SWMU 17, Power Plant Area	05-735	GW	VOA	m,p-Xylene	ug/l			0.50U		
SWMU 17, Power Plant Area	05-735	GW	VOA	Methylene chloride	ug/l	1.0U				
SWMU 17, Power Plant Area	05-735	GW	VOA	o-Xylene	ug/l			0.50U		
SWMU 17, Power Plant Area	05-735	GW	VOA	Tetrachloroethene	ug/l	8.5	4.7D	5.7	2.5	1.3
SWMU 17, Power Plant Area	05-735	GW	VOA	Toluene	ug/l			0.72 U		
SWMU 17, Power Plant Area	05-735	GW	VOA	trans-1,2-Dichloroethene	ug/l	22	18D	21	18	18
SWMU 17, Power Plant Area	05-735	GW	VOA	Trichloroethene	ug/l	4.4	3.0D	3.7	2.8	2.3
SWMU 17, Power Plant Area	05-735	GW	VOA	Vinyl chloride	ug/l	7.4	3.4D	6.1	5.4	4.3
SWMU 17, Power Plant Area	05-810	GW	TPH	TPH-Diesel	ug/l	54U				
SWMU 17, Power Plant Area	05-810	GW	TPH	TPH-Gasoline	ug/l	25U				
SWMU 17, Power Plant Area	05-810	GW	VOA	Benzene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-810	GW	VOA	Ethylbenzene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-810	GW	VOA	m,p-Xylene	ug/l	2.0U				
SWMU 17, Power Plant Area	05-810	GW	VOA	o-Xylene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-810	GW	VOA	Toluene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-810	GW	VOA	Xylenes	ug/l	3.0U				
SWMU 17, Power Plant Area	05-811	GW	TPH	TPH-Diesel	ug/l	56U				
SWMU 17, Power Plant Area	05-811	GW	TPH	TPH-Gasoline	ug/l	25U				
SWMU 17, Power Plant Area	05-811	GW	VOA	Benzene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-811	GW	VOA	Ethylbenzene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-811	GW	VOA	m,p-Xylene	ug/l	2.0U				
SWMU 17, Power Plant Area	05-811	GW	VOA	o-Xylene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-811	GW	VOA	Toluene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-811	GW	VOA	Xylenes	ug/l	3.0U				
SWMU 17, Power Plant Area	05-815	GW	TPH	TPH-Diesel	ug/l	250				
SWMU 17, Power Plant Area	05-815	GW	TPH	TPH-Gasoline	ug/l	25U				
SWMU 17, Power Plant Area	05-815	GW	VOA	Benzene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-815	GW	VOA	Ethylbenzene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-815	GW	VOA	m,p-Xylene	ug/l	2.0U				
SWMU 17, Power Plant Area	05-815	GW	VOA	o-Xylene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-815	GW	VOA	Toluene	ug/l	1.0U				
SWMU 17, Power Plant Area	05-815	GW	VOA	Xylenes	ug/l	3.0U				
SWMU 17, Power Plant Area	HC-2	GW	TPH	TPH-Diesel	ug/l			2100Y	1500Y	2900Y
SWMU 17, Power Plant Area	HC-3	GW	TPH	TPH-Diesel	ug/l		1300Y	3500Y	760Y	810Y
SWMU 17, Power Plant Area	PP-05	GW	TPH	TPH-Diesel	ug/l				8500Y	8500Y
SWMU 17, Power Plant Area	R-1 (03-004)	GW	TPH	TPH-Diesel	ug/l	1600	1200Y	1100Y		1300Y
SWMU 17, Power Plant Area	R-2 (03-002)	GW	TPH	TPH-Diesel	ug/l		77Y	270Y		220Y

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SWMU 17, Power Plant Area	R-5 (03-005)	GW	TPH	TPH-Diesel	ug/l		1900Y	1900Y	1900Y	1800Y
SWMU 17, Power Plant Area	R-6 (03-006)	GW	TPH	TPH-Diesel	ug/l		8800Y	5500Y	4300Y	5000Y
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	DIN	Lead	ug/l					0.030J
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	TIN	Lead	ug/l					0.030J
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	TPH	TPH-Diesel	ug/l					51H
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	TPH	TPH-Gasoline	ug/l					25J
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	1,1-Dichloroethene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	Benzene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	cis-1,2-Dichloroethene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	Ethylbenzene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	m,p-Xylene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	o-Xylene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	Tetrachloroethene	ug/l	110	71D	61	57	50
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	Toluene	ug/l			0.53 U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	trans-1,2-Dichloroethene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	Trichloroethene	ug/l	1.0U	0.27J	0.32J	0.17J	0.22J
SWMU 55, Public Works Transportation Department Waste Storage Area	55-145	GW	VOA	Vinyl chloride	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	DIN	Lead	ug/l				0.030U	0.032
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	TIN	Lead	ug/l				0.055	0.137
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	TPH	TPH-Diesel	ug/l				70U	120Y
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	TPH	TPH-Gasoline	ug/l				100U	15J
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	1,1-Dichloroethene	ug/l	1.0U		0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	Benzene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	cis-1,2-Dichloroethene	ug/l	1.0U		0.18J		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	Ethylbenzene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	m,p-Xylene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	o-Xylene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	Tetrachloroethene	ug/l	1.0U		0.22J		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	Toluene	ug/l			0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	trans-1,2-Dichloroethene	ug/l	1.0U		0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	Trichloroethene	ug/l	1.0U		0.50U		
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	GW	VOA	Vinyl chloride	ug/l	1.0U		0.50U		
SWMU 58/SA 73, Heating Plant 6	12-101	GW	TPH	TPH-Diesel	ug/l	980				
SWMU 58/SA 73, Heating Plant 6	12-101	GW	TPH	TPH-Gasoline	ug/l	25U				
SWMU 58/SA 73, Heating Plant 6	12-101	GW	VOA	Benzene	ug/l	1.0U				
SWMU 58/SA 73, Heating Plant 6	12-101	GW	VOA	Ethylbenzene	ug/l	1.0U				
SWMU 58/SA 73, Heating Plant 6	12-101	GW	VOA	m,p-Xylene	ug/l	2.0U				
SWMU 58/SA 73, Heating Plant 6	12-101	GW	VOA	o-Xylene	ug/l	1.0U				
SWMU 58/SA 73, Heating Plant 6	12-101	GW	VOA	Toluene	ug/l	1.0U				
SWMU 58/SA 73, Heating Plant 6	12-101	GW	VOA	Xylenes	ug/l	3.0U				
SWMU 58/SA 73, Heating Plant 6	12-105	GW	TPH	TPH-Diesel	ug/l			7800Y		6400Y
SWMU 58/SA 73, Heating Plant 6	12-105	GW	TPH	TPH-Gasoline	ug/l			60J		
SWMU 58/SA 73, Heating Plant 6	12-105	GW	VOA	Benzene	ug/l			0.30J		
SWMU 58/SA 73, Heating Plant 6	12-105	GW	VOA	Ethylbenzene	ug/l			0.28J		
SWMU 58/SA 73, Heating Plant 6	12-105	GW	VOA	m,p-Xylene	ug/l			0.20J		
SWMU 58/SA 73, Heating Plant 6	12-105	GW	VOA	o-Xylene	ug/l			0.27J		
SWMU 58/SA 73, Heating Plant 6	12-105	GW	VOA	Toluene	ug/l			1.4U		
SWMU 58/SA 73, Heating Plant 6	12-105	GW	VOA	Xylenes	ug/l			0.47J		
SWMU 58/SA 73, Heating Plant 6	12-114	GW	TPH	TPH-Diesel	ug/l	6800		2900Y		4300Y
SWMU 58/SA 73, Heating Plant 6	12-114	GW	TPH	TPH-Gasoline	ug/l	200		20J		
SWMU 58/SA 73, Heating Plant 6	12-114	GW	VOA	Benzene	ug/l	5.1		0.38J		
SWMU 58/SA 73, Heating Plant 6	12-114	GW	VOA	Ethylbenzene	ug/l	14		0.72		
SWMU 58/SA 73, Heating Plant 6	12-114	GW	VOA	m,p-Xylene	ug/l	61		1		
SWMU 58/SA 73, Heating Plant 6	12-114	GW	VOA	o-Xylene	ug/l	1.0U		0.13J		

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SWMU 58/SA 73, Heating Plant 6	12-114	GW	VOA	Toluene	ug/l	0.97J		0.71U		
SWMU 58/SA 73, Heating Plant 6	12-114	GW	VOA	Xylenes	ug/l	61		1.13J		
SWMU 58/SA 73, Heating Plant 6	12-120	GW	TPH	TPH-Diesel	ug/l	2100				
SWMU 58/SA 73, Heating Plant 6	12-120	GW	TPH	TPH-Gasoline	ug/l	120				
SWMU 58/SA 73, Heating Plant 6	12-120	GW	VOA	Benzene	ug/l	1.0U				
SWMU 58/SA 73, Heating Plant 6	12-120	GW	VOA	Ethylbenzene	ug/l	7.5				
SWMU 58/SA 73, Heating Plant 6	12-120	GW	VOA	m,p-Xylene	ug/l	7.5				
SWMU 58/SA 73, Heating Plant 6	12-120	GW	VOA	o-Xylene	ug/l	0.59J				
SWMU 58/SA 73, Heating Plant 6	12-120	GW	VOA	Toluene	ug/l	1.0U				
SWMU 58/SA 73, Heating Plant 6	12-120	GW	VOA	Xylenes	ug/l	8.09J				
SWMU 58/SA 73, Heating Plant 6	12-121	GW	TPH	TPH-Diesel	ug/l		28000Y		9500Y	1300Y
SWMU 58/SA 73, Heating Plant 6	12-121	GW	TPH	TPH-Gasoline	ug/l		190H			
SWMU 58/SA 73, Heating Plant 6	12-121	GW	VOA	Benzene	ug/l		1.4			
SWMU 58/SA 73, Heating Plant 6	12-121	GW	VOA	Ethylbenzene	ug/l		6.1			
SWMU 58/SA 73, Heating Plant 6	12-121	GW	VOA	Toluene	ug/l		0.63			
SWMU 58/SA 73, Heating Plant 6	12-121	GW	VOA	Xylenes	ug/l		5.7J			
SWMU 58/SA 73, Heating Plant 6	12-203	GW	TPH	TPH-Diesel	ug/l					17000Y
SWMU 58/SA 73, Heating Plant 6	12-601	GW	TPH	TPH-Diesel	ug/l	61	73U	40J	92Y	27J
SWMU 58/SA 73, Heating Plant 6	12-601	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U		
SWMU 58/SA 73, Heating Plant 6	12-601	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U		
SWMU 58/SA 73, Heating Plant 6	12-601	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U		
SWMU 58/SA 73, Heating Plant 6	12-601	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U		
SWMU 58/SA 73, Heating Plant 6	12-601	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U		
SWMU 58/SA 73, Heating Plant 6	12-601	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.72U		
SWMU 58/SA 73, Heating Plant 6	12-601	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U		
SWMU 58/SA 73, Heating Plant 6	12-604	GW	TPH	TPH-Diesel	ug/l	76		40J		50Z
SWMU 58/SA 73, Heating Plant 6	12-604	GW	TPH	TPH-Gasoline	ug/l	25U		100 U		
SWMU 58/SA 73, Heating Plant 6	12-604	GW	VOA	Benzene	ug/l	1.0U		0.50U		
SWMU 58/SA 73, Heating Plant 6	12-604	GW	VOA	Ethylbenzene	ug/l	1.0U		0.50U		
SWMU 58/SA 73, Heating Plant 6	12-604	GW	VOA	m,p-Xylene	ug/l	2.0U		0.50U		
SWMU 58/SA 73, Heating Plant 6	12-604	GW	VOA	o-Xylene	ug/l	1.0U		0.50U		
SWMU 58/SA 73, Heating Plant 6	12-604	GW	VOA	Toluene	ug/l	1.0U		0.74U		
SWMU 58/SA 73, Heating Plant 6	12-604	GW	VOA	Xylenes	ug/l	3.0U		1.0U		
SWMU 58/SA 73, Heating Plant 6	12-611	GW	TPH	TPH-Diesel	ug/l	4000	5000Y	3200Y	2500Y	3300Y
SWMU 58/SA 73, Heating Plant 6	12-611	GW	TPH	TPH-Gasoline	ug/l	710	730Y	750Y		
SWMU 58/SA 73, Heating Plant 6	12-611	GW	VOA	Benzene	ug/l	28	18	16		
SWMU 58/SA 73, Heating Plant 6	12-611	GW	VOA	Ethylbenzene	ug/l	25	18	13		
SWMU 58/SA 73, Heating Plant 6	12-611	GW	VOA	m,p-Xylene	ug/l	220	160	130		
SWMU 58/SA 73, Heating Plant 6	12-611	GW	VOA	o-Xylene	ug/l	1.0U	1.5	1.2		
SWMU 58/SA 73, Heating Plant 6	12-611	GW	VOA	Toluene	ug/l	3.0	1.7	2.2U		
SWMU 58/SA 73, Heating Plant 6	12-611	GW	VOA	Xylenes	ug/l	220	161.5	131.2		
SWMU 58/SA 73, Heating Plant 6	NL-07	SED	TPH	TPH-Diesel	ug/kg				200000Z	
SWMU 58/SA 73, Heating Plant 6	NL-07	SW	TPH	TPH-Diesel	ug/kg				86Y	
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	2-Methylnaphthalene	ug/l			34D	42D	42D
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Acenaphthene	ug/l			0.91	0.95	0.99
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Acenaphthylene	ug/l			0.37U	0.31U	0.31Ui
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Anthracene	ug/l			0.1	0.12	0.12
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Benzo(a)anthracene	ug/l			0.0073J	0.019U	0.0066J
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Benzo(a)pyrene	ug/l			0.020U	0.019U	0.020U
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Benzo(b)fluoranthene	ug/l			0.020U	0.019U	0.020U
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Benzo(g,h,i)perylene	ug/l			0.020U	0.019U	0.020U
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Benzo(k)fluoranthene	ug/l			0.020U	0.019U	0.020U
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Chrysene	ug/l			0.0054J	0.0039J	0.020U
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Dibenz(a,h)anthracene	ug/l			0.020U	0.019U	0.020U

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SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Fluoranthene	ug/l			0.078	0.072	0.078
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Fluorene	ug/l			4.8	4.3	4.4
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l			0.020U	0.019U	0.020U
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Naphthalene	ug/l			41D	27D	30D
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Phenanthrene	ug/l			2.5	2.4	2.8
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	SVOA	Pyrene	ug/l			0.058	0.064	0.063
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	TPH	TPH-Diesel	ug/l	3000	1500Y	1100Y	1000Y	860Y
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	VOA	Benzene	ug/l			1.6J	1.3	1.1
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	VOA	Ethylbenzene	ug/l			21D	26	26
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	VOA	m,p-Xylene	ug/l			47D	58	46
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	VOA	o-Xylene	ug/l			0.95J	1.3	1.4
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	VOA	Toluene	ug/l			2.6J	1.7	2.3
SWMU 60, Tank Farm A	LC5A (OLD 1)	GW	VOA	Xylenes	ug/l			47.95DJ	59.3	47.4
SWMU 60, Tank Farm A	MW E006,MW-006,AMW-006	GW	VOA	Benzene	ug/l	15	4.8	16	9.9	8.1
SWMU 60, Tank Farm A	MW E006,MW-006,AMW-006	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.10J	
SWMU 60, Tank Farm A	MW E006,MW-006,AMW-006	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U	0.42J	
SWMU 60, Tank Farm A	MW E006,MW-006,AMW-006	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.20J	
SWMU 60, Tank Farm A	MW E006,MW-006,AMW-006	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.50U	0.50U	
SWMU 60, Tank Farm A	MW E006,MW-006,AMW-006	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U	0.62J	
SWMU 60, Tank Farm A	NL-03	SED	TPH	TPH-Diesel	ug/kg		900000Y			
SWMU 60, Tank Farm A	NL-03	SED	VOA	Benzene	ug/kg		17U			
SWMU 60, Tank Farm A	NL-03	SED	VOA	Ethylbenzene	ug/kg		17U			
SWMU 60, Tank Farm A	NL-03	SED	VOA	m,p-Xylene	ug/kg		34U			
SWMU 60, Tank Farm A	NL-03	SED	VOA	o-Xylene	ug/kg		17U			
SWMU 60, Tank Farm A	NL-03	SED	VOA	Toluene	ug/kg		17U			
SWMU 60, Tank Farm A	NL-03	SED	VOA	Xylenes	ug/kg		51U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	2-Methylnaphthalene	ug/l		0.0050J			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Acenaphthene	ug/l		0.0075J			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Acenaphthylene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Anthracene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Benzo(a)anthracene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Benzo(a)pyrene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Benzo(b)fluoranthene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Benzo(g,h,i)perylene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Benzo(k)fluoranthene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Chrysene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Dibenz(a,h)anthracene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Fluoranthene	ug/l		0.0041J			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Fluorene	ug/l		0.0090J			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Naphthalene	ug/l		0.020U			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Phenanthrene	ug/l		0.0052J			
SWMU 60, Tank Farm A	NL-03	SW	SVOA	Pyrene	ug/l		0.0030J			
SWMU 60, Tank Farm A	NL-03	SW	TPH	TPH-Diesel	ug/l		49U			
SWMU 60, Tank Farm A	NL-03	SW	VOA	Benzene	ug/l		0.50U			
SWMU 60, Tank Farm A	NL-03	SW	VOA	Ethylbenzene	ug/l		0.14J			
SWMU 60, Tank Farm A	NL-03	SW	VOA	m,p-Xylene	ug/l		0.22J			
SWMU 60, Tank Farm A	NL-03	SW	VOA	o-Xylene	ug/l		0.50U			
SWMU 60, Tank Farm A	NL-03	SW	VOA	Toluene	ug/l		0.15J			
SWMU 60, Tank Farm A	NL-03	SW	VOA	Xylenes	ug/l		0.22J			
SWMU 61, Tank Farm B	14-113	GW	DIN	Manganese	ug/l				2990	
SWMU 61, Tank Farm B	14-113	GW	SVOA	2-Methylnaphthalene	ug/l		0.11	0.096	0.14	0.14
SWMU 61, Tank Farm B	14-113	GW	SVOA	Acenaphthene	ug/l		0.0069J	0.0049J	0.020U	0.0086J
SWMU 61, Tank Farm B	14-113	GW	SVOA	Acenaphthylene	ug/l		0.020U	0.020U	0.020U	0.020U

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SWMU 61, Tank Farm B	14-113	GW	SVOA	Anthracene	ug/l		0.020U	0.020U	0.020U	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Benzo(a)anthracene	ug/l		0.020U	0.020U	0.020U	0.020J
SWMU 61, Tank Farm B	14-113	GW	SVOA	Benzo(a)pyrene	ug/l		0.020U	0.020U	0.020U	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Benzo(b)fluoranthene	ug/l		0.0032J	0.020U	0.020U	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Benzo(g,h,i)perylene	ug/l		0.0039J	0.020U	0.020U	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Benzo(k)fluoranthene	ug/l		0.020U	0.020U	0.020U	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Chrysene	ug/l		0.020U	0.020U	0.0058J	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Dibenz(a,h)anthracene	ug/l		0.0035J	0.020U	0.020U	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Fluoranthene	ug/l		0.0067J	0.020U	0.0050J	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Fluorene	ug/l		0.018J	0.014J	0.047	0.029
SWMU 61, Tank Farm B	14-113	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l		0.0029J	0.020U	0.020U	0.020U
SWMU 61, Tank Farm B	14-113	GW	SVOA	Naphthalene	ug/l		0.1	0.088	0.39	0.18B
SWMU 61, Tank Farm B	14-113	GW	SVOA	Phenanthrene	ug/l		0.023	0.020U	0.052	0.025
SWMU 61, Tank Farm B	14-113	GW	SVOA	Pyrene	ug/l		0.0091J	0.020U	0.0036J	0.020U
SWMU 61, Tank Farm B	14-113	GW	TIN	Manganese	ug/l				3100	
SWMU 61, Tank Farm B	14-113	GW	TPH	TPH-Diesel	ug/l				560L	
SWMU 61, Tank Farm B	14-113	GW	TPH	TPH-Gasoline	ug/l	6300	3900Z	2700Z	5100Z	3800Y
SWMU 61, Tank Farm B	14-113	GW	VOA	Benzene	ug/l	16	14	9.6D	13D	12
SWMU 61, Tank Farm B	14-113	GW	VOA	Ethylbenzene	ug/l	43	20	14D	30D	17
SWMU 61, Tank Farm B	14-113	GW	VOA	m,p-Xylene	ug/l	1700	810D	720D	1400D	1200D
SWMU 61, Tank Farm B	14-113	GW	VOA	o-Xylene	ug/l	1.0U	1.5	1.5JD	2.5D	1.9
SWMU 61, Tank Farm B	14-113	GW	VOA	Toluene	ug/l	5.7	4.4	3.2D	7.2D	4.5
SWMU 61, Tank Farm B	14-113	GW	VOA	Xylenes	ug/l	1700	811.5	721.5JD	1402.5D	1201.9D
SWMU 61, Tank Farm B	14-210	GW	TIN	Manganese	ug/l				2460	
SWMU 61, Tank Farm B	14-210	GW	TPH	TPH-Gasoline	ug/l	3700J	3400Y	3800Y	4500Y	4200Y
SWMU 61, Tank Farm B	14-210	GW	VOA	Benzene	ug/l	1.0U	1.0U	0.50U	0.50U	0.50U
SWMU 61, Tank Farm B	14-210	GW	VOA	Ethylbenzene	ug/l	1.0U	1.0U	0.50U	0.070J	0.14J
SWMU 61, Tank Farm B	14-210	GW	VOA	m,p-Xylene	ug/l	5.8	0.50JD	0.93J	0.35J	0.74
SWMU 61, Tank Farm B	14-210	GW	VOA	o-Xylene	ug/l	1.0U	1.0U	0.11J	0.50U	0.16J
SWMU 61, Tank Farm B	14-210	GW	VOA	Toluene	ug/l	1.0U	0.26JD	1.4UJ	0.50U	0.66
SWMU 61, Tank Farm B	14-210	GW	VOA	Xylenes	ug/l	5.8		1.04J		0.9J
SWMU 61, Tank Farm B	NL-04	SED	TPH	TPH-Diesel	ug/kg				89000Y	160000Z
SWMU 61, Tank Farm B	NL-04	SED	TPH	TPH-Diesel, SGT	ug/kg					120000J
SWMU 61, Tank Farm B	NL-04	SED	TPH	TPH-Gasoline	ug/kg		2800UJ	300000ZJ	13000J	60000J
SWMU 61, Tank Farm B	NL-04	SED	VOA	Benzene	ug/kg		12U	58J	66U	520U
SWMU 61, Tank Farm B	NL-04	SED	VOA	Ethylbenzene	ug/kg		12U	270	66U	520U
SWMU 61, Tank Farm B	NL-04	SED	VOA	m,p-Xylene	ug/kg		23U	26000J	62J	520U
SWMU 61, Tank Farm B	NL-04	SED	VOA	o-Xylene	ug/kg		12U	240U	66U	520U
SWMU 61, Tank Farm B	NL-04	SED	VOA	Toluene	ug/kg		12U	240U	66U	520U
SWMU 61, Tank Farm B	NL-04	SED	VOA	Xylenes	ug/kg		35U	26000J	62J	1040U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	2-Methylnaphthalene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Acenaphthene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Acenaphthylene	ug/l		0.020U	0.020 U	0.019U	0.020Ui
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Anthracene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Benzo(a)anthracene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Benzo(a)pyrene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Benzo(b)fluoranthene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Benzo(g,h,i)perylene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Benzo(k)fluoranthene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Chrysene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Dibenz(a,h)anthracene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Fluoranthene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Fluorene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l		0.020U	0.020 U	0.019U	0.020U

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Naphthalene	ug/l		0.020U	0.020 U	0.048	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Phenanthrene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	SVOA	Pyrene	ug/l		0.020U	0.020 U	0.019U	0.020U
SWMU 61, Tank Farm B	NL-04	SW	TPH	TPH-Diesel	ug/l				56U	50J
SWMU 61, Tank Farm B	NL-04	SW	TPH	TPH-Gasoline	ug/l		100U	100U	100U	16J
SWMU 61, Tank Farm B	NL-04	SW	VOA	Benzene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 61, Tank Farm B	NL-04	SW	VOA	Ethylbenzene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 61, Tank Farm B	NL-04	SW	VOA	m,p-Xylene	ug/l		0.36J	0.23J	0.50U	0.13J
SWMU 61, Tank Farm B	NL-04	SW	VOA	o-Xylene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 61, Tank Farm B	NL-04	SW	VOA	Toluene	ug/l		0.50U	1.4U	0.50U	0.22J
SWMU 61, Tank Farm B	NL-04	SW	VOA	Xylenes	ug/l		0.36J	0.23J	1.0U	0.13J
SWMU 61, Tank Farm B	NL-D-04	SED	TPH	TPH-Diesel	ug/kg				1200000Y	370000Y
SWMU 61, Tank Farm B	NL-D-04	SED	TPH	TPH-Diesel, SGT	ug/kg					310000Y
SWMU 61, Tank Farm B	NL-D-04	SED	TPH	TPH-Gasoline	ug/kg				53000U	79000U
SWMU 61, Tank Farm B	NL-D-04	SED	VOA	Benzene	ug/kg				220U	0.72U
SWMU 61, Tank Farm B	NL-D-04	SED	VOA	Ethylbenzene	ug/kg				220U	0.72U
SWMU 61, Tank Farm B	NL-D-04	SED	VOA	m,p-Xylene	ug/kg				96J	0.72U
SWMU 61, Tank Farm B	NL-D-04	SED	VOA	o-Xylene	ug/kg				220U	0.72U
SWMU 61, Tank Farm B	NL-D-04	SED	VOA	Toluene	ug/kg				220U	0.72U
SWMU 61, Tank Farm B	NL-D-04	SED	VOA	Xylenes	ug/kg				96J	1.44U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	2-Methylnaphthalene	ug/l				0.022U	0.020J
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Acenaphthene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Acenaphthylene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Anthracene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Benzo(a)anthracene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Benzo(a)pyrene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Benzo(b)fluoranthene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Benzo(g,h,i)perylene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Benzo(k)fluoranthene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Chrysene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Dibenz(a,h)anthracene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Fluoranthene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Fluorene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Naphthalene	ug/l				0.022U	0.055B
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Phenanthrene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	SVOA	Pyrene	ug/l				0.022U	0.020U
SWMU 61, Tank Farm B	NL-D-04	SW	TPH	TPH-Diesel	ug/l				150U	32J
SWMU 61, Tank Farm B	NL-D-04	SW	TPH	TPH-Gasoline	ug/l				26J	100U
SWMU 61, Tank Farm B	NL-D-04	SW	VOA	Benzene	ug/l				0.50U	0.50U
SWMU 61, Tank Farm B	NL-D-04	SW	VOA	Ethylbenzene	ug/l				0.50U	0.50U
SWMU 61, Tank Farm B	NL-D-04	SW	VOA	m,p-Xylene	ug/l				0.50U	0.50U
SWMU 61, Tank Farm B	NL-D-04	SW	VOA	o-Xylene	ug/l				0.50U	0.50U
SWMU 61, Tank Farm B	NL-D-04	SW	VOA	Toluene	ug/l				0.50U	0.50J
SWMU 61, Tank Farm B	NL-D-04	SW	VOA	Xylenes	ug/l				1.0U	1.0U
SWMU 61, Tank Farm B	NL-U-04	SED	TPH	TPH-Diesel	ug/kg				66000J	
SWMU 61, Tank Farm B	NL-U-04	SED	TPH	TPH-Gasoline	ug/kg				39000U	
SWMU 61, Tank Farm B	NL-U-04	SED	VOA	Benzene	ug/kg				150U	
SWMU 61, Tank Farm B	NL-U-04	SED	VOA	Ethylbenzene	ug/kg				150U	
SWMU 61, Tank Farm B	NL-U-04	SED	VOA	m,p-Xylene	ug/kg				300U	
SWMU 61, Tank Farm B	NL-U-04	SED	VOA	o-Xylene	ug/kg				150U	
SWMU 61, Tank Farm B	NL-U-04	SED	VOA	Toluene	ug/kg				150U	
SWMU 61, Tank Farm B	NL-U-04	SED	VOA	Xylenes	ug/kg				450U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	2-Methylnaphthalene	ug/l				0.020U	

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Acenaphthene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Acenaphthylene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Anthracene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Benzo(a)anthracene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Benzo(a)pyrene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Benzo(b)fluoranthene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Benzo(g,h,i)perylene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Benzo(k)fluoranthene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Chrysene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Dibenz(a,h)anthracene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Fluoranthene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Fluorene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Naphthalene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Phenanthrene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	SVOA	Pyrene	ug/l				0.020U	
SWMU 61, Tank Farm B	NL-U-04	SW	TPH	TPH-Diesel	ug/l				49U	
SWMU 61, Tank Farm B	NL-U-04	SW	TPH	TPH-Gasoline	ug/l				100U	
SWMU 61, Tank Farm B	NL-U-04	SW	VOA	Benzene	ug/l				0.50U	
SWMU 61, Tank Farm B	NL-U-04	SW	VOA	Ethylbenzene	ug/l				0.50U	
SWMU 61, Tank Farm B	NL-U-04	SW	VOA	m,p-Xylene	ug/l				0.50U	
SWMU 61, Tank Farm B	NL-U-04	SW	VOA	o-Xylene	ug/l				0.50U	
SWMU 61, Tank Farm B	NL-U-04	SW	VOA	Toluene	ug/l				0.50U	
SWMU 61, Tank Farm B	NL-U-04	SW	VOA	Xylenes	ug/l				1.0U	
SWMU 61, Tank Farm B	TFB-MW4B	GW	TPH	TPH-Diesel	ug/l				1400L	
SWMU 61, Tank Farm B	TFB-MW4B	GW	TPH	TPH-Gasoline	ug/l	40000J	41000DY	53000DY	50000DY	46000DY
SWMU 61, Tank Farm B	TFB-MW4B	GW	VOA	Benzene	ug/l	31	39D	29D	31D	30D
SWMU 61, Tank Farm B	TFB-MW4B	GW	VOA	Ethylbenzene	ug/l	1400	1700D	1600D	2000D	2100D
SWMU 61, Tank Farm B	TFB-MW4B	GW	VOA	m,p-Xylene	ug/l	8600	10000D	9900D	12000D	12000D
SWMU 61, Tank Farm B	TFB-MW4B	GW	VOA	o-Xylene	ug/l	2200	2800D	2700D	2900D	3700D
SWMU 61, Tank Farm B	TFB-MW4B	GW	VOA	Toluene	ug/l	3500	4100D	4400D	4800D	4600D
SWMU 61, Tank Farm B	TFB-MW4B	GW	VOA	Xylenes	ug/l	10,800		12600D	14900D	15700D
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	2-Methylnaphthalene	ug/l	0.096U		0.020U	0.020U	0.0042J
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Acenaphthene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Acenaphthylene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Anthracene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Benzo(a)anthracene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Benzo(a)pyrene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Benzo(b)fluoranthene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Benzo(g,h,i)perylene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Benzo(k)fluoranthene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Chrysene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Dibenz(a,h)anthracene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Fluoranthene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Fluorene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Naphthalene	ug/l	0.096U		0.020U	0.014J	0.045
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Phenanthrene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	SVOA	Pyrene	ug/l	0.096U		0.020U	0.020U	0.020U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	TPH	TPH-Diesel	ug/l	120		81J	85U	77H
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	TPH	TPH-Gasoline	ug/l	25U		100U	100U	
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	VOA	Benzene	ug/l	1.0U		0.50U	0.50U	0.50U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	VOA	Ethylbenzene	ug/l	1.0U		0.50U	0.50U	0.50U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	VOA	m,p-Xylene	ug/l	2.0U		0.12J	0.50U	0.50U

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	VOA	o-Xylene	ug/l	1.0U		0.50U	0.50U	0.50U
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	VOA	Toluene	ug/l	1.0U		0.59U	0.50U	0.50J
South of Runway 18-36 Area	RW-18/36-03 (NW3)	GW	VOA	Xylenes	ug/l	3.0U		0.12J	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	TPH	Methane	ug/l	0.87U				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	TPH	TPH-Diesel	ug/l	1900	230Y	540Y	190Y	890Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	TPH	TPH-Gasoline	ug/l	47	15J	22J	100U	100U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	VOA	o-Xylene	ug/l	8.7	1.5	2.1J	0.22J	0.64
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.50UJ	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-103	GW	VOA	Xylenes	ug/l	8.7	1.5	2.1J	0.22J	0.64
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	TPH	Methane	ug/l	0.87U				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	TPH	TPH-Diesel	ug/l	50U	48U	15J	93U	54Z
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	100U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.50UJ	0.66U	0.50J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0UJ	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	TPH	Methane	ug/l	610				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	TPH	TPH-Diesel	ug/l	8200	6400Z	4800Z	1300Y	1200Z
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	TPH	TPH-Gasoline	ug/l	8200	6700DY	5300Y	3600Y	1500Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	VOA	Benzene	ug/l	5.4	1.8	1.5	0.64	0.15J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	VOA	Ethylbenzene	ug/l	320	170D	180D	140D	80D
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	VOA	m,p-Xylene	ug/l	660	370D	370D	310D	110
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	VOA	o-Xylene	ug/l	240	140D	150D	120D	32
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	VOA	Toluene	ug/l	730	230D	180D	13	1.5
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-502	GW	VOA	Xylenes	ug/l	900	510D	520D	430D	142
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	TPH	Methane	ug/l	48				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	TPH	TPH-Diesel	ug/l	660	150Y	79J	80U	1200Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	14J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.12J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.50U	0.50U	0.65
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	TPH	Methane	ug/l	34				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	TPH	TPH-Diesel	ug/l	2500	1600Y	2700Y	1200Y	3800Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	TPH	TPH-Gasoline	ug/l	49	85J	95J	61J	78J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.070J	0.050J	0.12J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	VOA	Ethylbenzene	ug/l	0.63J	0.84	0.82	0.18J	1.7
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	VOA	m,p-Xylene	ug/l	2.0U	0.56	0.57	0.19J	0.58
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	VOA	o-Xylene	ug/l	2.4	4.6	5.7	2	7.2
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	VOA	Toluene	ug/l	1.0U	0.13J	0.50U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	AMW-704	GW	VOA	Xylenes	ug/l	2.4	5.16	6.27	2.19J	7.78
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	TPH	TPH-Diesel	ug/kg				460000	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	TPH	TPH-Gasoline	ug/kg				4700U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	TPH	TPH-Heavy Fraction/Oil	ug/kg				290000J	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	VOA	Benzene	ug/kg				19U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	VOA	Ethylbenzene	ug/kg				19U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	VOA	m,p-Xylene	ug/kg				38U	

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SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	VOA	o-Xylene	ug/kg				19U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SED	VOA	Toluene	ug/kg				19U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	2-Methylnaphthalene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Acenaphthene	ug/l				0.0068J	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Acenaphthylene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Anthracene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Benzo(a)anthracene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Benzo(a)pyrene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Benzo(b)fluoranthene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Benzo(g,h,i)perylene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Benzo(k)fluoranthene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Chrysene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Dibenz(a,h)anthracene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Fluoranthene	ug/l				0.0067J	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Fluorene	ug/l				0.0095J	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Naphthalene	ug/l				0.031	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Phenanthrene	ug/l				0.02U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	SVOA	Pyrene	ug/l				0.011J	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	TPH	TPH-Diesel	ug/l				120	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	TPH	TPH-Gasoline	ug/l				66J	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	VOA	Benzene	ug/l				0.52	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	VOA	Ethylbenzene	ug/l				1.8	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	VOA	m,p-Xylene	ug/l				1.8	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	VOA	o-Xylene	ug/l				0.17J	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	EC-01	SW	VOA	Toluene	ug/l				0.62U	
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	TPH	Methane	ug/l	0.87U				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	TPH	TPH-Diesel	ug/l	50U	48U	97U	49U	49J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	100U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	VOA	Toluene	ug/l	1.0U	0.24J	0.98U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	TPH	Methane	ug/l	340				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	TPH	TPH-Diesel	ug/l	1800	890Y	930Y	310Y	1200Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	TPH	TPH-Gasoline	ug/l	47	37J	31J	22J	20J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.090J	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	VOA	Toluene	ug/l	1.0U	0.16J	0.59U	0.50U	0.54
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	TPH	TPH-Diesel	ug/kg					39000Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	TPH	TPH-Gasoline	ug/kg					6900U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	VOA	Benzene	ug/kg					72U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	VOA	Toluene	ug/kg					72U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	VOA	Ethylbenzene	ug/kg					72U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	VOA	m,p-Xylenes	ug/kg					72U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	VOA	o-Xylene	ug/kg					72U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Naphthalene	ug/kg					3.3
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	2-Methylnaphthalene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Acenaphthylene	ug/kg					3.2U

Summary of Analytical Results 2006 through 2010
Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Acenaphthene	ug/kg					0.91J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Fluorene	ug/kg					3.5
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Phenanthrene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Anthracene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Fluoranthene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Pyrene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Benz(a)anthracene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Chrysene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Benzo(b)fluoranthene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Benzo(k)fluoranthene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Benzo(a)pyrene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Indeno(1,2,3-cd)pyrene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Dibenz(a,h)anthracene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SED	SVOA	Benzo(g,h,i)perylene	ug/kg					3.2U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	TPH	TPH-Diesel	ug/l					280J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	TPH	TPH-Gasoline	ug/l					230Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	VOA	Benzene	ug/l					1.1
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	VOA	Toluene	ug/l					4.4
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	VOA	Ethylbenzene	ug/l					13
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	VOA	m,p-Xylenes	ug/l					9.1
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	VOA	o-Xylene	ug/l					1.4
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Naphthalene	ug/l					0.14
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	2-Methylnaphthalene	ug/l					0.032
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Acenaphthylene	ug/l					0.0070J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Acenaphthene	ug/l					0.013J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Fluorene	ug/l					0.027
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Phenanthrene	ug/l					0.015J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Anthracene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Fluoranthene	ug/l					0.0087J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Pyrene	ug/l					0.0087J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Benz(a)anthracene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Chrysene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Benzo(b)fluoranthene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Benzo(k)fluoranthene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Benzo(a)pyrene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Indeno(1,2,3-cd)pyrene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Dibenz(a,h)anthracene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	NL-09	SW	SVOA	Benzo(g,h,i)perylene	ug/l					0.020U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	TPH	Methane	ug/l	200				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	TPH	TPH-Diesel	ug/l	3400		1800Y	200Y	2100Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	TPH	TPH-Gasoline	ug/l	94		35J	22J	15J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	VOA	Benzene	ug/l	1.0U		0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	VOA	Ethylbenzene	ug/l	0.94J		0.41J	0.50U	0.25J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	VOA	m,p-Xylene	ug/l	2.0U		0.44J	0.50U	0.28J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	VOA	o-Xylene	ug/l	11		3.6	0.50U	1.7
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	VOA	Toluene	ug/l	1.0U		0.50U	0.50U	0.54
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13 (NW-2)	GW	VOA	Xylenes	ug/l	11		4.04J	1.0U	1.98J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	TPH	Methane	ug/l	17				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	TPH	TPH-Diesel	ug/l	660	670Y	440Y	270Y	270Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	TPH	TPH-Gasoline	ug/l	35	29J	22J	19J	14J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	VOA	Benzene	ug/l	1.0U	0.5U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	VOA	Ethylbenzene	ug/l	0.74J	0.5U	0.090J	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	VOA	m,p-Xylene	ug/l	0.98J	0.5U	0.50UJ	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	VOA	o-Xylene	ug/l	0.67J	1	0.52J	0.28J	0.50U

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	VOA	Toluene	ug/l	1.0U	0.5U	0.50UJ	0.50U	0.62
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14 (NW-3)	GW	VOA	Xylenes	ug/l	1.65J	1	0.52J	0.28J	1.0U
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	TPH	TPH-Diesel	ug/l		5500Y			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	TPH	TPH-Gasoline	ug/l		440H			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	VOA	Benzene	ug/l		0.50U			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	VOA	Ethylbenzene	ug/l		10			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	VOA	m,p-Xylene	ug/l		42			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	VOA	o-Xylene	ug/l		10			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	VOA	Toluene	ug/l		0.34J			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	GW	VOA	Xylenes	ug/l		52			
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	TPH	Methane	ug/l	1400				
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	TPH	TPH-Diesel	ug/l	10000J	2500Y	6300Y	2900Y	8600Y
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	TPH	TPH-Gasoline	ug/l	92	120H	120H	92J	110H
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.16J	0.10J	0.11J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	VOA	Ethylbenzene	ug/l	3.4	0.52	1.1	1.4	1.3
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	VOA	m,p-Xylene	ug/l	2.4	1.2	2.5	2.2	2.2
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	VOA	o-Xylene	ug/l	1.0U	0.14J	0.35J	0.6	0.83
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	VOA	Toluene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-16 (NW-1)	GW	VOA	Xylenes	ug/l	2.4	1.34J	2.85J	2.8	3.03
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	TPH	TPH-Diesel	ug/l		9000Y	4800Y	5200Y	5600Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	TPH	TPH-Gasoline	ug/l		200H	340H	240Y	190H
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	VOA	Benzene	ug/l		0.50U	0.50U	0.050J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	VOA	Ethylbenzene	ug/l		2.4	5.6	3.7	5.2
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	VOA	m,p-Xylene	ug/l			11	8.6	7.3
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	VOA	o-Xylene	ug/l			37	28	24
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	VOA	Toluene	ug/l		0.73	1.9U	1.2	0.85
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	GW	VOA	Xylenes	ug/l		16.9	48	36.6	31.3
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	TPH	Methane	ug/l	230				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	TPH	TPH-Diesel	ug/l	1500	2400Y	3300Y	1600Y	2500Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	TPH	TPH-Gasoline	ug/l	31	37J	33J	29J	22J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.040J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.10J	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	VOA	Toluene	ug/l	1.0U	0.14J	0.50U	0.50U	0.67
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-155	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.10J	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	TPH	TPH-Diesel	ug/l		510Y	590Y	510Y	660Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	TPH	TPH-Gasoline	ug/l		57J	37J	23J	30J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	VOA	Benzene	ug/l		0.50U	0.20J	0.070J	0.10J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	VOA	Ethylbenzene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	VOA	m,p-Xylene	ug/l		0.50U	0.50U	0.11J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	VOA	o-Xylene	ug/l		0.50U	0.50U	0.50U	0.15J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	VOA	Toluene	ug/l		0.13J	0.57 U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-619	GW	VOA	Xylenes	ug/l		1.0U	1.0U	0.11J	0.15J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	TPH	Methane	ug/l	650				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	TPH	TPH-Diesel	ug/l	160	49U	140Y	60Y	100Z
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	100U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.12J	0.070J	0.060J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.080J	0.50U	0.060J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.20J	0.17J	0.16J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	VOA	Toluene	ug/l	1.0U	0.14J	0.50U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-697	GW	VOA	Xylenes	ug/l	3.0U	1.0U	0.20J	0.17J	0.16J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	TPH	Methane	ug/l	300				

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Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	TPH	TPH-Diesel	ug/l	1800	2100Y	1500Y	860Y	2400Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	TPH	TPH-Gasoline	ug/l	150	160H	170H	130Y	170H
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.090J	0.50U	0.11J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	VOA	Ethylbenzene	ug/l	12	13	13	9.2	9.5
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	VOA	m,p-Xylene	ug/l	6.7	6.3	7.4	5.1	9.7
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	VOA	o-Xylene	ug/l	0.78J	2.2	0.82	1.7	1
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	VOA	Toluene	ug/l	1.0U	0.73	0.77U	0.68	0.97
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-778	GW	VOA	Xylenes	ug/l	7.48J	8.5	8.22	6.8	10.7
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	TPH	Methane	ug/l	0.87U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	TPH	TPH-Diesel	ug/l	53U	48U	99U	28J	49J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	TPH	TPH-Gasoline	ug/l	25U	19J	100U	100U	100U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.040J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.080J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U	0.34J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.080J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	VOA	Toluene	ug/l	1.0U	0.12J	0.50U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-802	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U	0.42J	1.0U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	TPH	Methane	ug/l	0.87U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	TPH	TPH-Diesel	ug/l	51U	50U	22J	49U	49J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U	100U	100U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	VOA	Toluene	ug/l	1.0U	0.16J	0.50U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	GW	VOA	Xylenes	ug/l	3.0U	1.0U	1.0U	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	TPH	Methane	ug/l	0.87U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	TPH	TPH-Diesel	ug/l	520	410Y	720Y	1100Y	1500Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	TPH	TPH-Gasoline	ug/l	35	33J	54J	71J	43J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.28J	0.28J	0.23J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U	0.62	0.48J	0.29J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	VOA	o-Xylene	ug/l	1.9	0.68	2.3	2.3	1.8
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	VOA	Toluene	ug/l	1.0U	0.11J	0.50U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-6	GW	VOA	Xylenes	ug/l	1.9	0.68	2.92	2.78J	2.09J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	TPH	Methane	ug/l	0.87U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	TPH	TPH-Diesel	ug/l	86				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	TPH	TPH-Gasoline	ug/l	25U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	VOA	Benzene	ug/l	1.0U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	VOA	Ethylbenzene	ug/l	1.0U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	VOA	m,p-Xylene	ug/l	2.0U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	VOA	o-Xylene	ug/l	1.0U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	VOA	Toluene	ug/l	1.0U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-102-8	GW	VOA	Xylenes	ug/l	3.0U				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	TPH	TPH-Diesel	ug/l		50U	53J	57Y	150Z
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	TPH	TPH-Gasoline	ug/l		16J	100U	15J	100U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	VOA	Benzene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	VOA	Ethylbenzene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	VOA	m,p-Xylene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	VOA	o-Xylene	ug/l		0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	VOA	Toluene	ug/l		0.14J	0.50U	0.50U	0.5
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	GW	VOA	Xylenes	ug/l		1.0U	1.0U	1.0U	1.0U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	TPH	Methane	ug/l	4500				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	TPH	TPH-Diesel	ug/l	360	470Y	170Z	230Y	390Z

Summary of Analytical Results 2006 through 2010
Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	TPH	TPH-Gasoline	ug/l	49	86J	19J	31J	28J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	VOA	Benzene	ug/l	1.0U	0.39J	0.24J	0.15J	0.23J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	VOA	Ethylbenzene	ug/l	2.0	4.1	0.24J	0.34J	0.55
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	VOA	m,p-Xylene	ug/l	2.9	5	0.66	0.8	0.92
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	VOA	o-Xylene	ug/l	1.0U	0.50U	0.11J	0.16J	0.5U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	VOA	Toluene	ug/l	1.0U	0.29J	0.87U	0.50U	0.50J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-139-3	GW	VOA	Xylenes	ug/l	2.9	5	0.77J	0.96J	0.92
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	TPH	Methane	ug/l	2000				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	TPH	TPH-Diesel	ug/l	1900	1200Y	1100Y	1300Y	1700Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	TPH	TPH-Gasoline	ug/l	26	36J	32J	32J	23J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	VOA	Benzene	ug/l	1.0U	0.50U	0.080J	0.060J	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U	0.50U	0.50U	0.50U
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	VOA	m,p-Xylene	ug/l	2.0U	0.87	0.86	0.49J	0.57
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	VOA	o-Xylene	ug/l	1.0U	0.38J	0.34J	0.41J	0.27J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	VOA	Toluene	ug/l	1.0U	0.14J	0.59U	0.50U	0.64
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	GW	VOA	Xylenes	ug/l	3.0U	1.25J	1.20J	0.90J	0.84J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	TPH	Methane	ug/l	550				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	TPH	TPH-Diesel	ug/l	840	770Z		650Y	910Z
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	TPH	TPH-Gasoline	ug/l	3100	8400DY		4700Z	2300Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	VOA	Benzene	ug/l	39	67D		75D	43
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	VOA	Ethylbenzene	ug/l	94	320D		230D	120D
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	VOA	m,p-Xylene	ug/l	730	1500D		1300D	620D
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	VOA	o-Xylene	ug/l	1.0U	1.2JD		13D	0.33J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	VOA	Toluene	ug/l	1.8	3.7D		4.6D	1.9
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW2	GW	VOA	Xylenes	ug/l	730	1501.2JD		1313D	620.33J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	TPH	Methane	ug/l	3200				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	TPH	TPH-Diesel	ug/l	1800	6300Z		2700Y	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	TPH	TPH-Gasoline	ug/l	38000	38000DY		40000DY	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	VOA	Benzene	ug/l	2.4J	3.2JD		5.5D	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	VOA	Ethylbenzene	ug/l	2500	1500D		2100D	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	VOA	m,p-Xylene	ug/l	11000	6700D		9200D	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	VOA	o-Xylene	ug/l	2100	1700D		2200D	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	VOA	Toluene	ug/l	730	680JD		610D	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	GW	VOA	Xylenes	ug/l	13100	8400D		11400D	
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	TPH	Methane	ug/l	2700				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	TPH	TPH-Diesel	ug/l	3400	4000Y	4100Y	3400Y	4400Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	TPH	TPH-Gasoline	ug/l	520	270H	480H	400Y	400H
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	VOA	Benzene	ug/l	0.88J	0.85	0.86	0.54	0.26J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	VOA	Ethylbenzene	ug/l	12	12	14	18	8.4
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	VOA	m,p-Xylene	ug/l	27	25	29	36	21
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	VOA	o-Xylene	ug/l	21	8.7	3.1	6.7	1.6
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	VOA	Toluene	ug/l	2.2	3.1	3.2U	2.6	2
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-107-1	GW	VOA	Xylenes	ug/l	48	33.7	32.1	42.7	22.6
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	TPH	Methane	ug/l	590				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	TPH	TPH-Diesel	ug/l	6300J	5600Y	4700Y	5600Y	4900Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	TPH	TPH-Gasoline	ug/l	440	470H	700H	240Y	410H
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	VOA	Benzene	ug/l	1.6	1.1	1.1	0.73	0.89
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	VOA	Ethylbenzene	ug/l	16	2.7	34	14	26
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	VOA	m,p-Xylene	ug/l	16	23	38	12	24
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	VOA	o-Xylene	ug/l	25	27	36	17	29
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	VOA	Toluene	ug/l	3.2	2.8	7.1	2.1	3.8
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-134-11	GW	VOA	Xylenes	ug/l	41	50	74	29	53
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	TPH	TPH-Diesel	ug/l		12000Y	12000Y	6800Y	13000Y
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	TPH	TPH-Gasoline	ug/l		220H	340H	300Y	320H

Summary of Analytical Results 2006 through 2010
Groundwater, Surface Water, and Sediment
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	VOA	Benzene	ug/l		0.14J	0.10J	0.10J	0.090J
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	VOA	Ethylbenzene	ug/l		3.7	2.8	2.7	4.1
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	VOA	m,p-Xylene	ug/l		19	16	16	27
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	VOA	o-Xylene	ug/l		16	15	10	16
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	VOA	Toluene	ug/l		0.61	1.1U	0.50U	0.82
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-146-1	GW	VOA	Xylenes	ug/l		35	31	26	43
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	TPH	Methane	ug/l	5600				
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	TPH	TPH-Diesel	ug/l	3900	3300Y	3500Y	2400Y	4400Z
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	TPH	TPH-Gasoline	ug/l	820	630H	1100H	800Y	800H
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	VOA	Benzene	ug/l	18	11	14	8	3.6
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	VOA	Ethylbenzene	ug/l	83	58	51	48	66
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	VOA	m,p-Xylene	ug/l	58	55	130	92	94
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	VOA	o-Xylene	ug/l	8.6	20	80D	36	31
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	VOA	Toluene	ug/l	1.0U	0.28J	0.92U	3.8	1
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MW-187-1	GW	VOA	Xylenes	ug/l	66.6	75	210D	128	125
Tanker Shed, UST 42494	04-175	GW	TPH	TPH-Diesel	ug/l	11000	6600Y	4700Y	7700Y	6100Y
Tanker Shed, UST 42494	04-175	GW	TPH	TPH-Gasoline	ug/l	480	380Z	440Y		
Tanker Shed, UST 42494	04-175	GW	VOA	Benzene	ug/l	0.57J	0.21J			
Tanker Shed, UST 42494	04-175	GW	VOA	Ethylbenzene	ug/l	20	21			
Tanker Shed, UST 42494	04-175	GW	VOA	m,p-Xylene	ug/l	67	51			
Tanker Shed, UST 42494	04-175	GW	VOA	o-Xylene	ug/l	35	6.3			
Tanker Shed, UST 42494	04-175	GW	VOA	Toluene	ug/l	3.8	0.42J			
Tanker Shed, UST 42494	04-175	GW	VOA	Xylenes	ug/l	102	57.3			
Tanker Shed, UST 42494	04-290	GW	TPH	TPH-Diesel	ug/l	9000	1000y	2600Y	4300Y	4800Y
Tanker Shed, UST 42494	04-290	GW	TPH	TPH-Gasoline	ug/l	1300	72j	370Y	1100Y	820JH
Tanker Shed, UST 42494	04-290	GW	VOA	Benzene	ug/l	2.5	0.74	1.7	0.85	1.4
Tanker Shed, UST 42494	04-290	GW	VOA	Ethylbenzene	ug/l	66	4	18	45J	
Tanker Shed, UST 42494	04-290	GW	VOA	m,p-Xylene	ug/l	190	2.6	23	120J	
Tanker Shed, UST 42494	04-290	GW	VOA	o-Xylene	ug/l	120	2.7	25	110JD	
Tanker Shed, UST 42494	04-290	GW	VOA	Toluene	ug/l	120	0.17j	14	38J	
Tanker Shed, UST 42494	04-290	GW	VOA	Xylenes	ug/l	310	5.3	48	230JD	
Tanker Shed, UST 42494	04-306	GW	TPH	TPH-Diesel	ug/l			5200Y	4400Y	4300Y
Tanker Shed, UST 42494	04-306	GW	TPH	TPH-Gasoline	ug/l			1800Y	1700Y	1500Y
Tanker Shed, UST 42494	04-306	GW	VOA	Benzene	ug/l			1.9	2.8	1.5
Tanker Shed, UST 42494	04-306	GW	VOA	Ethylbenzene	ug/l			56D	64	
Tanker Shed, UST 42494	04-306	GW	VOA	m,p-Xylene	ug/l			210D	260D	
Tanker Shed, UST 42494	04-306	GW	VOA	o-Xylene	ug/l			140D	180D	
Tanker Shed, UST 42494	04-306	GW	VOA	Toluene	ug/l			81D	46	
Tanker Shed, UST 42494	04-306	GW	VOA	Xylenes	ug/l			350D	440D	
Tanker Shed, UST 42494	04-601	GW	TPH	TPH-Diesel	ug/l	1100	180Y	120Y	100YJ	97
Tanker Shed, UST 42494	04-601	GW	TPH	TPH-Gasoline	ug/l	82	100U	100U		100U
Tanker Shed, UST 42494	04-601	GW	VOA	Benzene	ug/l	2.1	0.15J	0.50U		0.13J
Tanker Shed, UST 42494	04-601	GW	VOA	Ethylbenzene	ug/l	8.3	0.30J	0.50U		
Tanker Shed, UST 42494	04-601	GW	VOA	m,p-Xylene	ug/l	5.6	0.50U	0.50U		
Tanker Shed, UST 42494	04-601	GW	VOA	o-Xylene	ug/l	3.8	0.50U	0.50U		
Tanker Shed, UST 42494	04-601	GW	VOA	Toluene	ug/l	1.0U	0.50U	1.1U		
Tanker Shed, UST 42494	04-601	GW	VOA	Xylenes	ug/l	9.4	1.0U	1.0U		
Tanker Shed, UST 42494	TS-01	GW	TPH	TPH-Diesel	ug/l	640	59Z	41J		50J
Tanker Shed, UST 42494	TS-01	GW	TPH	TPH-Gasoline	ug/l	25U	100U	13J		19J
Tanker Shed, UST 42494	TS-01	GW	VOA	Benzene	ug/l	1.0U	0.50U			
Tanker Shed, UST 42494	TS-01	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U			
Tanker Shed, UST 42494	TS-01	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U			
Tanker Shed, UST 42494	TS-01	GW	VOA	o-Xylene	ug/l	1.0U	0.50U			
Tanker Shed, UST 42494	TS-01	GW	VOA	Toluene	ug/l	2.0	0.50U			

Summary of Analytical Results 2006 through 2010
Groundwater, Surface Water, and Sediment
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	2006	2007	2008	2009	2010
Tanker Shed, UST 42494	TS-01	GW	VOA	Xylenes	ug/l	3.0U	1.0U			
Tanker Shed, UST 42494	TS-05	GW	TPH	TPH-Diesel	ug/l	53U	27J	34J		49BJ
Tanker Shed, UST 42494	TS-05	GW	TPH	TPH-Gasoline	ug/l	25U	100U	100U		100U
Tanker Shed, UST 42494	TS-05	GW	VOA	Benzene	ug/l	1.0U	0.50U			
Tanker Shed, UST 42494	TS-05	GW	VOA	Ethylbenzene	ug/l	1.0U	0.50U			
Tanker Shed, UST 42494	TS-05	GW	VOA	m,p-Xylene	ug/l	2.0U	0.50U			
Tanker Shed, UST 42494	TS-05	GW	VOA	o-Xylene	ug/l	1.0U	0.50U			
Tanker Shed, UST 42494	TS-05	GW	VOA	Toluene	ug/l	1.0U	0.50U			
Tanker Shed, UST 42494	TS-05	GW	VOA	Xylenes	ug/l	3.0U	1.0U			
Yakutat Hangar, UST 2039-A	05-221	GW	TPH	TPH-Diesel	ug/l	940				
Yakutat Hangar, UST 2039-A	05-244	GW	TPH	TPH-Diesel	ug/l	690				
Yakutat Hangar, UST 2039-A	05-250	GW	TPH	TPH-Diesel	ug/l	550				
Yakutat Hangar, UST 2039-A	05-389	GW	TPH	TPH-Diesel	ug/l	550				
Yakutat Hangar, UST 2039-A	05-801	GW	TPH	TPH-Diesel	ug/l	53U				
Yakutat Hangar, UST 2039-A	MW-2 (05-255)	GW	TPH	TPH-Diesel	ug/l	7600J				

Notes:
D – The reported result is from a dilution.
H – The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
J - Reported value is the instrument detection limit.
JX -
L - Laboratory Blank Spike/Blank Spike Duplicate percentage was not within control limits.
U- Not detected at or above the method reporting limit/method detection limit.
ug/L – micrograms per liter
Ui - Analyte is not detected. Reporting limit has been elevated due to a chromatographic interference.
UJ- Analyte is not detected. Reported value is the instrument detection limit.
SGT - silica gel treatment
Y - The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z - The chromatographic fingerprint of the sample does not resemble a petroleum product.

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
Amulet Housing 706	AMW-706	Groundwater	DIN	Antimony	ug/l													0.529				
Amulet Housing 706	AMW-706	Groundwater	DIN	Lead	ug/l	1U	1U	0.1UJ		1U			0.3U					0.296				
Amulet Housing 706	AMW-706	Groundwater	TIN	Antimony	ug/l													0.5U				
Amulet Housing 706	AMW-706	Groundwater	TIN	Lead	ug/l	1U	1U	0.1UJ		1U			2U					0.15U				
Amulet Housing 706	AMW-706	Groundwater	TIN	Thallium	ug/l													0.25U				
Amulet Housing 706	AMW-706	Groundwater	TPH	DRO	ug/l													480				
Amulet Housing 706	AMW-706	Groundwater	TPH	GRO	ug/l													6.5J				
Amulet Housing 706	AMW-706	Groundwater	TPH	RRO	ug/l													270J				
Amulet Housing 706	AMW-706	Groundwater	VOA	Benzene	ug/l													1U				
Amulet Housing 706	AMW-706	Groundwater	VOA	Ethylbenzene	ug/l													1U				
Amulet Housing 706	AMW-706	Groundwater	VOA	Toluene	ug/l													1U				
Amulet Housing 706	AMW-706	Groundwater	VOA	Xylenes	ug/l													3U				
Amulet Housing 709	AMW-709	Groundwater	DIN	Antimony	ug/l													0.225				
Amulet Housing 709	AMW-709	Groundwater	DIN	Lead	ug/l	1U	1U	0.1J		1U			0.3U					0.1U				
Amulet Housing 709	AMW-709	Groundwater	TIN	Antimony	ug/l													0.5U				
Amulet Housing 709	AMW-709	Groundwater	TIN	Lead	ug/l	1U	1U	0.2J		1U			2U					0.155				
Amulet Housing 709	AMW-709	Groundwater	TIN	Thallium	ug/l													0.25U				
Amulet Housing 709	AMW-709	Groundwater	TPH	DRO	ug/l													160U				
Amulet Housing 709	AMW-709	Groundwater	TPH	GRO	ug/l													63				
Amulet Housing 709	AMW-709	Groundwater	TPH	RRO	ug/l													280U				
Amulet Housing 709	AMW-709	Groundwater	VOA	Benzene	ug/l													0.63J				
Amulet Housing 709	AMW-709	Groundwater	VOA	Ethylbenzene	ug/l													1U				
Amulet Housing 709	AMW-709	Groundwater	VOA	Toluene	ug/l													1U				
Amulet Housing 709	AMW-709	Groundwater	VOA	Xylenes	ug/l													3U				
Antenna Field	ANT-601	Groundwater	TPH	C10-C24 Aliphatics	ug/l	399	80U			140J												
Antenna Field	ANT-601	Groundwater	TPH	C10-C24 Aromatics	ug/l	172	150U			170J												
Antenna Field	ANT-601	Groundwater	TPH	C10-C25 Aliphatics	ug/l													49J				
Antenna Field	ANT-601	Groundwater	TPH	C10-C25 Aromatics	ug/l													29J				
Antenna Field	ANT-601	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ															
Antenna Field	ANT-601	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U															
Antenna Field	ANT-601	Groundwater	TPH	C6-C10 Aliphatics	ug/l													9J				
Antenna Field	ANT-601	Groundwater	TPH	C6-C10 Aromatics	ug/l													14U				
Antenna Field	ANT-601	Groundwater	TPH	C6-C9 Aliphatics	ug/l	39J	20U			20U												
Antenna Field	ANT-601	Groundwater	TPH	C6-C9 Aromatics	ug/l	20UJ	20U			20U												
Antenna Field	ANT-601	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
Antenna Field	ANT-601	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
Antenna Field	ANT-601	Groundwater	TPH	DRO	ug/l		210U			310J				3200				1700			2020J	2410
Antenna Field	ANT-601	Groundwater	TPH	GRO	ug/l	40J	20U			20U				90U				11J				
Antenna Field	ANT-601	Groundwater	TPH	RRO	ug/l									1110U				710			480U	
Antenna Field	ANT-601	Groundwater	VOA	Benzene	ug/l	0.4UJ	0.2U			0.2U				0.5U				1U				
Antenna Field	ANT-601	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
Antenna Field	ANT-601	Groundwater	VOA	Ethylbenzene	ug/l	0.4UJ	0.2U			0.2U				2U				1U				
Antenna Field	ANT-601	Groundwater	VOA	m,p-Xylene	ug/l	0.8UJ	0.4U			0.4U				2U								
Antenna Field	ANT-601	Groundwater	VOA	o-Xylene	ug/l	0.4UJ	0.2U			0.2U				2U								
Antenna Field	ANT-601	Groundwater	VOA	Toluene	ug/l	0.6UJ	0.3U			0.3U				2U				1U				
Antenna Field	ANT-601	Groundwater	VOA	Xylenes	ug/l													3U				
Antenna Field	ANT-601	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
Arctic Acres	03-416	Groundwater	TPH	DRO	ug/l									3450						790	1160	
Arctic Acres	03-416	Groundwater	TPH	GRO	ug/l									81.3								
Arctic Acres	03-416	Groundwater	TPH	RRO	ug/l															210U	500U	
Arctic Acres	03-416	Groundwater	VOA	Benzene	ug/l									0.765								
Arctic Acres	03-416	Groundwater	VOA	Ethylbenzene	ug/l									9.62								
Arctic Acres	03-416	Groundwater	VOA	Toluene	ug/l									0.5U								
Arctic Acres	03-416	Groundwater	VOA	Xylenes	ug/l									3.26								
Arctic Acres	03-420	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	80U	80U													
Arctic Acres	03-420	Groundwater	TPH	C10-C24 Aromatics	ug/l	126	250U	110J	80UJ													
Arctic Acres	03-420	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	60U														
Arctic Acres	03-420	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	80U														
Arctic Acres	03-420	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U	20U													
Arctic Acres	03-420	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
Arctic Acres	03-420	Groundwater	TPH	DRO	ug/l		280U	160U	160UJ					12300				4900		4900	5450	5650J
Arctic Acres	03-420	Groundwater	TPH	GRO	ug/l	20U	20U	20U	20U					50U				20.6J				
Arctic Acres	03-420	Groundwater	TPH	RRO	ug/l													1200		610	341J	
Arctic Acres	03-420	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U	0.2U					0.2U				1U				
Arctic Acres	03-420	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
Arctic Acres	03-420	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U	0.2U					0.5U				1U				
Arctic Acres	03-420	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U	0.4U													
Arctic Acres	03-420	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.56	0.2U	0.2U													
Arctic Acres	03-420	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U	0.3U					0.5U				1U				
Arctic Acres	03-420	Groundwater	VOA	Xylenes	ug/l									1U				1.43J				
Arctic Acres	03-420	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
Arctic Acres	03-421	Groundwater	SVOA	Acenaphthene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Acenaphthylene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Anthracene	ug/l									1.14								
Arctic Acres	03-421	Groundwater	SVOA	Benzo(a)anthracene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Benzo(a)pyrene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Chrysene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Fluoranthene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Fluorene	ug/l									3.6								
Arctic Acres	03-421	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									1U								
Arctic Acres	03-421	Groundwater	SVOA	Naphthalene	ug/l									86.3								
Arctic Acres	03-421	Groundwater	SVOA	Phenanthrene	ug/l									1.9								
Arctic Acres	03-421	Groundwater	SVOA	Pyrene	ug/l									1U								
Arctic Acres	03-421	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	430J	100J														
Arctic Acres	03-421	Groundwater	TPH	C10-C24 Aromatics	ug/l	1140	1300J	1700J														
Arctic Acres	03-421	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	61UJ														
Arctic Acres	03-421	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	81U														

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
Arctic Acres	03-421	Groundwater	TPH	C6-C9 Aliphatics	ug/l	190	200U	120														
Arctic Acres	03-421	Groundwater	TPH	C6-C9 Aromatics	ug/l	350	370	410														
Arctic Acres	03-421	Groundwater	TPH	DRO	ug/l		1800UJ	1800J						81300J				3500				Product
Arctic Acres	03-421	Groundwater	TPH	GRO	ug/l	530	460	540						282				172				
Arctic Acres	03-421	Groundwater	TPH	RRO	ug/l													240J				
Arctic Acres	03-421	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									24								
Arctic Acres	03-421	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									5U								
Arctic Acres	03-421	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,2-Dichloroethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,2-Dichloropropane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									18.7								
Arctic Acres	03-421	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	2-Butanone	ug/l									249								
Arctic Acres	03-421	Groundwater	VOA	2-Chlorotoluene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	2-Hexanone	ug/l									10U								
Arctic Acres	03-421	Groundwater	VOA	4-Chlorotoluene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	4-Isopropyltoluene	ug/l									4.45								
Arctic Acres	03-421	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U								
Arctic Acres	03-421	Groundwater	VOA	Acetone	ug/l									25U								
Arctic Acres	03-421	Groundwater	VOA	Benzene	ug/l	2U	2U	0.4U						0.5U				1U				
Arctic Acres	03-421	Groundwater	VOA	Bromobenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Bromochloromethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Bromodichloromethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Bromoform	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Bromomethane	ug/l									2UJ								
Arctic Acres	03-421	Groundwater	VOA	BTEX (total)	ug/l	52.3		77.3														
Arctic Acres	03-421	Groundwater	VOA	Carbon disulfide	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Carbon tetrachloride	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Chlorobenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Chloroethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Chloroform	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Chloromethane	ug/l									5U								
Arctic Acres	03-421	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Dibromochloromethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Dibromomethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Ethylbenzene	ug/l	2U	2U	2.3						1U				0.59J				
Arctic Acres	03-421	Groundwater	VOA	Hexachlorobutadiene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Isopropylbenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	m,p-Xylene	ug/l	13	17	25						3.39								
Arctic Acres	03-421	Groundwater	VOA	Methylene chloride	ug/l									5U								
Arctic Acres	03-421	Groundwater	VOA	Naphthalene	ug/l									29.3								
Arctic Acres	03-421	Groundwater	VOA	n-Butylbenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	n-Propylbenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	o-Xylene	ug/l	34	45	46						11.5								
Arctic Acres	03-421	Groundwater	VOA	sec-Butylbenzene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Styrene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	tert-Butylbenzene	ug/l									13.2								
Arctic Acres	03-421	Groundwater	VOA	Tetrachloroethene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Toluene	ug/l	5.3	5.7	4						1U				0.59J				
Arctic Acres	03-421	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Trichloroethene	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Vinyl chloride	ug/l									1U								
Arctic Acres	03-421	Groundwater	VOA	Xylenes	ug/l									14J				5.86				
Arctic Acres	03-421	Groundwater	VOA	Xylenes (total)	ug/l	47		46														
Arctic Acres	03-422	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	79U		80U												
Arctic Acres	03-422	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	79UJ		80UJ												
Arctic Acres	03-422	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	59U														
Arctic Acres	03-422	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	79U														
Arctic Acres	03-422	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
Arctic Acres	03-422	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
Arctic Acres	03-422	Groundwater	TPH	DRO	ug/l		160U	160U		160UJ				663J				94J				
Arctic Acres	03-422	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U				50U				13.3J				
Arctic Acres	03-422	Groundwater	TPH	RRO	ug/l													170J				
Arctic Acres	03-422	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U				0.2U				1U				
Arctic Acres	03-422	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
Arctic Acres	03-422	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U		0.2U				0.5U				1U				
Arctic Acres	03-422	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U		0.4U												
Arctic Acres	03-422	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U												
Arctic Acres	03-422	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U				0.5U				0.51J				
Arctic Acres	03-422	Groundwater	VOA	Xylenes	ug/l									1U				3U				
Arctic Acres	03-422	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
Arctic Acres	03-890	Groundwater	SVOA	Acenaphthene	ug/l									1.32								
Arctic Acres	03-890	Groundwater	SVOA	Acenaphthylene	ug/l									1U								

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
Arctic Acres	03-890	Groundwater	SVOA	Anthracene	ug/l									4.16								
Arctic Acres	03-890	Groundwater	SVOA	Benzo(a)anthracene	ug/l									1U								
Arctic Acres	03-890	Groundwater	SVOA	Benzo(a)pyrene	ug/l									5.48								
Arctic Acres	03-890	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									1U								
Arctic Acres	03-890	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									1U								
Arctic Acres	03-890	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									1U								
Arctic Acres	03-890	Groundwater	SVOA	Chrysene	ug/l									1U								
Arctic Acres	03-890	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									6.24								
Arctic Acres	03-890	Groundwater	SVOA	Fluoranthene	ug/l									1U								
Arctic Acres	03-890	Groundwater	SVOA	Fluorene	ug/l									6.81								
Arctic Acres	03-890	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									6.99								
Arctic Acres	03-890	Groundwater	SVOA	Naphthalene	ug/l									86.2								
Arctic Acres	03-890	Groundwater	SVOA	Phenanthrene	ug/l									1U								
Arctic Acres	03-890	Groundwater	SVOA	Pyrene	ug/l									1U								
Arctic Acres	03-890	Groundwater	TPH	C10-C24 Aliphatics	ug/l	239	3000J	550J														
Arctic Acres	03-890	Groundwater	TPH	C10-C24 Aromatics	ug/l	1940	2700J	2600J														
Arctic Acres	03-890	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	6000J	59UJ														
Arctic Acres	03-890	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	400J	78U														
Arctic Acres	03-890	Groundwater	TPH	C6-C9 Aliphatics	ug/l	270	290	370														
Arctic Acres	03-890	Groundwater	TPH	C6-C9 Aromatics	ug/l	1300	1200	1300														
Arctic Acres	03-890	Groundwater	TPH	DRO	ug/l		5600J	3100J						90600J				16000				Product
Arctic Acres	03-890	Groundwater	TPH	GRO	ug/l	1600	1500	1600						2090J				2400				
Arctic Acres	03-890	Groundwater	TPH	RRO	ug/l													1400J				
Arctic Acres	03-890	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									422								
Arctic Acres	03-890	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									5U								
Arctic Acres	03-890	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,2-Dichloroethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,2-Dichloropropane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									112								
Arctic Acres	03-890	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	2-Butanone	ug/l									115								
Arctic Acres	03-890	Groundwater	VOA	2-Chlorotoluene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	2-Hexanone	ug/l									10U								
Arctic Acres	03-890	Groundwater	VOA	4-Chlorotoluene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	4-Isopropyltoluene	ug/l									32.7								
Arctic Acres	03-890	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U								
Arctic Acres	03-890	Groundwater	VOA	Acetone	ug/l									135								
Arctic Acres	03-890	Groundwater	VOA	Benzene	ug/l	6.9	5.3	3.5						3.94				2.1				
Arctic Acres	03-890	Groundwater	VOA	Bromobenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Bromochloromethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Bromodichloromethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Bromoform	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Bromomethane	ug/l									2U								
Arctic Acres	03-890	Groundwater	VOA	BTEX (total)	ug/l	333.9																
Arctic Acres	03-890	Groundwater	VOA	Carbon disulfide	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Carbon tetrachloride	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Chlorobenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Chloroethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Chloroform	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Chloromethane	ug/l									5U								
Arctic Acres	03-890	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Dibromochloromethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Dibromomethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Ethylbenzene	ug/l	45	48	50						45.6				34				
Arctic Acres	03-890	Groundwater	VOA	Hexachlorobutadiene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Isopropylbenzene	ug/l									17.8								
Arctic Acres	03-890	Groundwater	VOA	m,p-Xylene	ug/l	120	110	130						115								
Arctic Acres	03-890	Groundwater	VOA	Methylene chloride	ug/l									5U								
Arctic Acres	03-890	Groundwater	VOA	Naphthalene	ug/l									235								
Arctic Acres	03-890	Groundwater	VOA	n-Butylbenzene	ug/l									180								
Arctic Acres	03-890	Groundwater	VOA	n-Propylbenzene	ug/l									47.3								
Arctic Acres	03-890	Groundwater	VOA	o-Xylene	ug/l	120	110	90						103								
Arctic Acres	03-890	Groundwater	VOA	sec-Butylbenzene	ug/l									16.3								
Arctic Acres	03-890	Groundwater	VOA	Styrene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	tert-Butylbenzene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Tetrachloroethene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Toluene	ug/l	42	27	28						35.6				16				
Arctic Acres	03-890	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Trichloroethene	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Vinyl chloride	ug/l									1U								
Arctic Acres	03-890	Groundwater	VOA	Xylenes	ug/l									194				130				
Arctic Acres	03-890	Groundwater	VOA	Xylenes (total)	ug/l	240																
Arctic Acres	AA-01	Groundwater	TPH	C10-C25 Aliphatics	ug/l													54J				

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Arctic Acres	AA-01	Groundwater	TPH	C10-C25 Aromatics	ug/l													53J				
Arctic Acres	AA-01	Groundwater	TPH	DRO	ug/l									1190J				320		420	472	
Arctic Acres	AA-01	Groundwater	TPH	GRO	ug/l									71.4								
Arctic Acres	AA-01	Groundwater	TPH	RRO	ug/l													280		320U	500U	
Arctic Acres	AA-01	Groundwater	VOA	Benzene	ug/l									0.633								
Arctic Acres	AA-01	Groundwater	VOA	Ethylbenzene	ug/l									0.538								
Arctic Acres	AA-01	Groundwater	VOA	Toluene	ug/l									0.5J								
Arctic Acres	AA-01	Groundwater	VOA	Xylenes	ug/l									2.12J								
Arctic Acres	AA-02	Groundwater	TPH	C10-C25 Aliphatics	ug/l													31J				
Arctic Acres	AA-02	Groundwater	TPH	C10-C25 Aromatics	ug/l													84U				
Arctic Acres	AA-02	Groundwater	TPH	DRO	ug/l									455J				98J				
Arctic Acres	AA-02	Groundwater	TPH	GRO	ug/l									50U								
Arctic Acres	AA-02	Groundwater	TPH	RRO	ug/l													330				
Arctic Acres	AA-02	Groundwater	VOA	Benzene	ug/l									0.2U								
Arctic Acres	AA-02	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Arctic Acres	AA-02	Groundwater	VOA	Toluene	ug/l									0.5U								
Arctic Acres	AA-02	Groundwater	VOA	Xylenes	ug/l									1U								
Arctic Acres	AA-03	Groundwater	TPH	DRO	ug/l									150J								
Arctic Acres	AA-03	Groundwater	TPH	GRO	ug/l									50U								
Arctic Acres	AA-03	Groundwater	VOA	Benzene	ug/l									0.2U								
Arctic Acres	AA-03	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Arctic Acres	AA-03	Groundwater	VOA	Toluene	ug/l									0.5U								
Arctic Acres	AA-03	Groundwater	VOA	Xylenes	ug/l									1.01								
Arctic Acres	AA-04	Groundwater	TPH	DRO	ug/l									143J								
Arctic Acres	AA-04	Groundwater	TPH	GRO	ug/l									50U								
Arctic Acres	AA-04	Groundwater	VOA	Benzene	ug/l									0.2U								
Arctic Acres	AA-04	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Arctic Acres	AA-04	Groundwater	VOA	Toluene	ug/l									0.5U								
Arctic Acres	AA-04	Groundwater	VOA	Xylenes	ug/l									1U								
Arctic Acres	AA-05	Groundwater	TPH	DRO	ug/l									265J				160U				
Arctic Acres	AA-05	Groundwater	TPH	GRO	ug/l									50U								
Arctic Acres	AA-05	Groundwater	TPH	RRO	ug/l													280U				
Arctic Acres	AA-05	Groundwater	VOA	Benzene	ug/l									0.2U								
Arctic Acres	AA-05	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Arctic Acres	AA-05	Groundwater	VOA	Toluene	ug/l									0.5U								
Arctic Acres	AA-05	Groundwater	VOA	Xylenes	ug/l									1U								
Arctic Acres	AA-06	Groundwater	TPH	DRO	ug/l									250J				74J				
Arctic Acres	AA-06	Groundwater	TPH	GRO	ug/l									50U								
Arctic Acres	AA-06	Groundwater	TPH	RRO	ug/l													190J				
Arctic Acres	AA-06	Groundwater	VOA	Benzene	ug/l									0.2U								
Arctic Acres	AA-06	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Arctic Acres	AA-06	Groundwater	VOA	Toluene	ug/l									0.5U								
Arctic Acres	AA-06	Groundwater	VOA	Xylenes	ug/l									1U								
Boy Scout Camp	10-400	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	78U			78UJ											
Boy Scout Camp	10-400	Groundwater	TPH	C10-C24 Aromatics	ug/l	137	110U	78U			78UJ											
Boy Scout Camp	10-400	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	58U														
Boy Scout Camp	10-400	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	78U														
Boy Scout Camp	10-400	Groundwater	TPH	C6-C9 Aliphatics	ug/l	48	20U	20U			20U											
Boy Scout Camp	10-400	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
Boy Scout Camp	10-400	Groundwater	TPH	DRO	ug/l		180U	160U			160UJ											
Boy Scout Camp	10-400	Groundwater	TPH	GRO	ug/l	55	20U	20U			20U											
Boy Scout Camp	10-400	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U			0.2UJ											
Boy Scout Camp	10-400	Groundwater	VOA	BTEX (total)	ug/l	0.8U		0.2														
Boy Scout Camp	10-400	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U			0.2U											
Boy Scout Camp	10-400	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U			0.4U											
Boy Scout Camp	10-400	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U			0.2U											
Boy Scout Camp	10-400	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U			0.3U											
Boy Scout Camp	10-400	Groundwater	VOA	Xylenes (total)	ug/l	0.8U		0.2														
Boy Scout Camp	10-401	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	79U			78UJ											
Boy Scout Camp	10-401	Groundwater	TPH	C10-C24 Aromatics	ug/l	103	130U	79U			78UJ											
Boy Scout Camp	10-401	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	59UJ														
Boy Scout Camp	10-401	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	79UJ														
Boy Scout Camp	10-401	Groundwater	TPH	C6-C9 Aliphatics	ug/l	46	62	45			44											
Boy Scout Camp	10-401	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
Boy Scout Camp	10-401	Groundwater	TPH	DRO	ug/l		180U	160U			160UJ											
Boy Scout Camp	10-401	Groundwater	TPH	GRO	ug/l	50	64	49			46											
Boy Scout Camp	10-401	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U			0.2UJ											
Boy Scout Camp	10-401	Groundwater	VOA	BTEX (total)	ug/l	0.8U	0.2															
Boy Scout Camp	10-401	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U			0.2U											
Boy Scout Camp	10-401	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U			0.4U											
Boy Scout Camp	10-401	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U			0.2U											
Boy Scout Camp	10-401	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U			0.3U											
Boy Scout Camp	10-401	Groundwater	VOA	Xylenes (total)	ug/l	0.8U	0.2															
Contractor's Camp	08-101	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	88	81U		80U												
Contractor's Camp	08-101	Groundwater	TPH	C10-C24 Aromatics	ug/l	330	370	300J		300J												
Contractor's Camp	08-101	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	110J														
Contractor's Camp	08-101	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	81U														
Contractor's Camp	08-101	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U		20U												
Contractor's Camp	08-101	Groundwater	TPH	C6-C9 Aromatics	ug/l	43	44	32		67												
Contractor's Camp	08-101	Groundwater	TPH	DRO	ug/l		450	350		310J												
Contractor's Camp	08-101	Groundwater	TPH	GRO	ug/l	57	58	51		81												
Contractor's Camp	08-101	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U												
Contractor's Camp	08-101	Groundwater	VOA	BTEX (total)	ug/l	5.55																
Contractor's Camp	08-101	Groundwater	VOA	Ethylbenzene	ug/l	0.95	0.66	0.61		1.2												
Contractor's Camp	08-101	Groundwater	VOA	m,p-Xylene	ug/l	1.6	1.1	1		2.3												
Contractor's Camp	08-101	Groundwater	VOA	o-Xylene	ug/l	3	2.2	1.1		2.8												
Contractor's Camp	08-101	Groundwater	VOA	Toluene	ug/l	0.6U	0.35	0.3U		0.3U												
Contractor's Camp	08-101	Groundwater	VOA	Xylenes (total)	ug/l	4.6																
Contractor's Camp	08-171	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	79U	81U	78UJ													
Contractor's Camp	08-171	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	79U	81UJ	78UJ													
Contractor's Camp	08-171	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59U	61U														

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Contractor's Camp	08-171	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	79U	81U														
Contractor's Camp	08-171	Groundwater	TPH	C6-C9 Aliphatics	ug/l	100	100J	100	110													
Contractor's Camp	08-171	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
Contractor's Camp	08-171	Groundwater	TPH	DRO	ug/l		160U	160U	160UJ													
Contractor's Camp	08-171	Groundwater	TPH	GRO	ug/l	110	100	110	120													
Contractor's Camp	08-171	Groundwater	VOA	Benzene	ug/l	0.5	0.39U	0.27J	0.29J													
Contractor's Camp	08-171	Groundwater	VOA	BTEX (total)	ug/l	1.04																
Contractor's Camp	08-171	Groundwater	VOA	Ethylbenzene	ug/l	0.54	0.59J	0.56	0.77													
Contractor's Camp	08-171	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U	0.4U													
Contractor's Camp	08-171	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U	0.2U													
Contractor's Camp	08-171	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U	0.3U													
Contractor's Camp	08-171	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
Contractor's Camp	08-203	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	76U	77U	78UJ													
Contractor's Camp	08-203	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	76U	77UJ	86J													
Contractor's Camp	08-203	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	57U	58UJ														
Contractor's Camp	08-203	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	76U	77U														
Contractor's Camp	08-203	Groundwater	TPH	C6-C9 Aliphatics	ug/l	61	73J	79J	72													
Contractor's Camp	08-203	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
Contractor's Camp	08-203	Groundwater	TPH	DRO	ug/l		150U	150U	160UJ													
Contractor's Camp	08-203	Groundwater	TPH	GRO	ug/l	66	76	86J	76													
Contractor's Camp	08-203	Groundwater	VOA	Benzene	ug/l	0.58	0.2U	0.61J	0.25													
Contractor's Camp	08-203	Groundwater	VOA	BTEX (total)	ug/l	1.31																
Contractor's Camp	08-203	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U	0.2U													
Contractor's Camp	08-203	Groundwater	VOA	m,p-Xylene	ug/l	0.73NJ	0.45	1	0.64J													
Contractor's Camp	08-203	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.4J	0.2U													
Contractor's Camp	08-203	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U	0.3U													
Contractor's Camp	08-203	Groundwater	VOA	Xylenes (total)	ug/l	0.73																
Finger Bay QH	FB-101	Groundwater	TPH	C6-C10 Aliphatics	ug/l													36U				
Finger Bay QH	FB-101	Groundwater	TPH	C6-C10 Aromatics	ug/l													14U				
Finger Bay QH	FB-101	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
Finger Bay QH	FB-101	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
Finger Bay QH	FB-101	Groundwater	TPH	DRO	ug/l									543U				160U				
Finger Bay QH	FB-101	Groundwater	TPH	GRO	ug/l									90U				6.6J				
Finger Bay QH	FB-101	Groundwater	TPH	RRO	ug/l									1090U				130J				
Finger Bay QH	FB-101	Groundwater	VOA	Benzene	ug/l									0.5U				1U				
Finger Bay QH	FB-101	Groundwater	VOA	Ethylbenzene	ug/l									2U				1U				
Finger Bay QH	FB-101	Groundwater	VOA	m,p-Xylene	ug/l									2U								
Finger Bay QH	FB-101	Groundwater	VOA	o-Xylene	ug/l									2U								
Finger Bay QH	FB-101	Groundwater	VOA	Toluene	ug/l									2U				1U				
Finger Bay QH	FB-101	Groundwater	VOA	Xylenes	ug/l													3U				
Finger Bay QH	FB-206	Groundwater	TPH	C6-C10 Aliphatics	ug/l													36U				
Finger Bay QH	FB-206	Groundwater	TPH	C6-C10 Aromatics	ug/l													14U				
Finger Bay QH	FB-206	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
Finger Bay QH	FB-206	Groundwater	TPH	DRO	ug/l									538U				100J				
Finger Bay QH	FB-206	Groundwater	TPH	GRO	ug/l									90U				7.2J				
Finger Bay QH	FB-206	Groundwater	TPH	RRO	ug/l									1080U				170J				
Finger Bay QH	FB-206	Groundwater	VOA	Benzene	ug/l									0.5U				1U				
Finger Bay QH	FB-206	Groundwater	VOA	Ethylbenzene	ug/l									2U				1U				
Finger Bay QH	FB-206	Groundwater	VOA	m,p-Xylene	ug/l									2U								
Finger Bay QH	FB-206	Groundwater	VOA	o-Xylene	ug/l									2U								
Finger Bay QH	FB-206	Groundwater	VOA	Toluene	ug/l									2U				1U				
Finger Bay QH	FB-206	Groundwater	VOA	Xylenes	ug/l													3U				
Former Pwr Plnt	01-118	Groundwater	DIN	Lead	ug/l	1U	1U	0.1U		1U				0.3U				0.1U				
Former Pwr Plnt	01-118	Groundwater	TIN	Lead	ug/l	1U	1U	0.3U		1U				2U				0.15U				
Former Pwr Plnt	01-118	Groundwater	TPH	C10-C25 Aliphatics	ug/l													53J				
Former Pwr Plnt	01-118	Groundwater	TPH	C10-C25 Aromatics	ug/l													430				
Former Pwr Plnt	01-118	Groundwater	TPH	C6-C10 Aliphatics	ug/l													36U				
Former Pwr Plnt	01-118	Groundwater	TPH	C6-C10 Aromatics	ug/l													440				
Former Pwr Plnt	01-118	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
Former Pwr Plnt	01-118	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									585								
Former Pwr Plnt	01-118	Groundwater	TPH	DRO	ug/l									10700				8700		14000	7080	11200J
Former Pwr Plnt	01-118	Groundwater	TPH	GRO	ug/l									568				410				
Former Pwr Plnt	01-118	Groundwater	TPH	RRO	ug/l									1470				2000		2900	1310	1130J
Former Pwr Plnt	01-118	Groundwater	VOA	Benzene	ug/l									0.659				0.59J				
Former Pwr Plnt	01-118	Groundwater	VOA	Ethylbenzene	ug/l									15				10				
Former Pwr Plnt	01-118	Groundwater	VOA	m,p-Xylene	ug/l									60.8								
Former Pwr Plnt	01-118	Groundwater	VOA	o-Xylene	ug/l									46.7								
Former Pwr Plnt	01-118	Groundwater	VOA	Toluene	ug/l									3.06				2.9				
Former Pwr Plnt	01-118	Groundwater	VOA	Xylenes	ug/l													81				
Former Pwr Plnt	01-150	Groundwater	TPH	DRO	ug/l															770	394	927J
Former Pwr Plnt	01-150	Groundwater	TPH	RRO	ug/l															210U	500U	
Former Pwr Plnt	01-151	Groundwater	TPH	DRO	ug/l															2300	1590	2840J
Former Pwr Plnt	01-151	Groundwater	TPH	RRO	ug/l															250U	500U	
Former Pwr Plnt	E-701	Groundwater	TPH	Methane	ug/l																	7.38
Former Pwr Plnt	E-701	Groundwater	TPH	DRO	ug/l													160U		100U	250U	
Former Pwr Plnt	E-701	Groundwater	TPH	GRO	ug/l													8.2J		16U	80U	
Former Pwr Plnt	E-701	Groundwater	TPH	RRO	ug/l													120J				
Former Pwr Plnt	E-701	Groundwater	VOA	Benzene	ug/l													1U		2U	0.5U	
Former Pwr Plnt	E-701	Groundwater	VOA	Ethylbenzene	ug/l													1U		2U	0.5U	
Former Pwr Plnt	E-701	Groundwater	VOA	m,p-Xylene	ug/l															2U		
Former Pwr Plnt	E-701	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
Former Pwr Plnt	E-701	Groundwater	VOA	o-Xylene	ug/l															2U		
Former Pwr Plnt	E-701	Groundwater	VOA	Toluene	ug/l													1U		2U	0.5U	
Former Pwr Plnt	E-701	Groundwater	VOA	Xylenes	ug/l													3U			1U	
Former Pwr Plnt	FB-206	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
GCI	04-100	Groundwater	TPH	DRO	ug/l															430	376	440J
GCI	04-100	Groundwater	TPH	GRO	ug/l															1600	5300J	4420J
GCI	04-100	Groundwater	VOA	Benzene	ug/l															2U	0.95	0.95J
GCI	04-100	Groundwater	VOA	Ethylbenzene	ug/l															1.6J	13.1	12.7J
GCI	04-100	Groundwater	VOA	m,p-Xylene	ug/l															1.9J		
GCI	04-100	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
GCI	04-100	Groundwater	VOA	o-Xylene	ug/l															2U		
GCI	04-100	Groundwater	VOA	Toluene	ug/l															0.98J	2.44	2.3J
GCI	04-100	Groundwater	VOA	Xylenes	ug/l																26.6	33.4J
GCI	04-201	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l											53J						
GCI	04-201	Groundwater	TPH	DRO - Aromatic Fraction	ug/l											42J						
GCI	04-201	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l											2400						
GCI	04-201	Groundwater	TPH	GRO - Aromatic Fraction	ug/l											150						
GCI	04-201	Groundwater	TPH	DRO	ug/l											290						
GCI	04-201	Groundwater	TPH	GRO	ug/l											2600						
GCI	04-201	Groundwater	VOA	Benzene	ug/l											5.2						
GCI	04-201	Groundwater	VOA	Ethylbenzene	ug/l											7.8						
GCI	04-201	Groundwater	VOA	Toluene	ug/l											1.6						
GCI	04-201	Groundwater	VOA	Xylenes	ug/l											33						
GCI	04-202	Groundwater	TPH	DRO	ug/l											660						Product
GCI	04-202	Groundwater	TPH	GRO	ug/l											5100						Product
GCI	04-202	Groundwater	VOA	Benzene	ug/l											8.7						Product
GCI	04-202	Groundwater	VOA	Ethylbenzene	ug/l											90						Product
GCI	04-202	Groundwater	VOA	Toluene	ug/l											53						Product
GCI	04-202	Groundwater	VOA	Xylenes	ug/l											310						Product
GCI	04-203	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l											42J						
GCI	04-203	Groundwater	TPH	DRO - Aromatic Fraction	ug/l											87						
GCI	04-203	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l											2200						
GCI	04-203	Groundwater	TPH	GRO - Aromatic Fraction	ug/l											540						
GCI	04-203	Groundwater	TPH	DRO	ug/l											320						
GCI	04-203	Groundwater	TPH	GRO	ug/l											2800						
GCI	04-203	Groundwater	VOA	Benzene	ug/l											14						
GCI	04-203	Groundwater	VOA	Ethylbenzene	ug/l											90						
GCI	04-203	Groundwater	VOA	Toluene	ug/l											19						
GCI	04-203	Groundwater	VOA	Xylenes	ug/l											280						
GCI	04-204	Groundwater	TPH	DRO	ug/l											170U						
GCI	04-204	Groundwater	TPH	GRO	ug/l											110						
GCI	04-204	Groundwater	VOA	Benzene	ug/l											1U						
GCI	04-204	Groundwater	VOA	Ethylbenzene	ug/l											1U						
GCI	04-204	Groundwater	VOA	Toluene	ug/l											1U						
GCI	04-204	Groundwater	VOA	Xylenes	ug/l											3U						
GCI	04-207	Groundwater	TPH	DRO	ug/l												2700					
GCI	04-207	Groundwater	TPH	GRO	ug/l												1700					
GCI	04-207	Groundwater	VOA	Benzene	ug/l												2.3					
GCI	04-207	Groundwater	VOA	Ethylbenzene	ug/l												9.4					
GCI	04-207	Groundwater	VOA	Toluene	ug/l												2.8					
GCI	04-207	Groundwater	VOA	Xylenes	ug/l												32					
GCI	04-210	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												61J					
GCI	04-210	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												80J					
GCI	04-210	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												4300					
GCI	04-210	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												650					
GCI	04-210	Groundwater	TPH	DRO	ug/l												420					
GCI	04-210	Groundwater	TPH	GRO	ug/l												5000					4580J
GCI	04-210	Groundwater	VOA	Benzene	ug/l												12					5.66J
GCI	04-210	Groundwater	VOA	Ethylbenzene	ug/l												110					127J
GCI	04-210	Groundwater	VOA	Toluene	ug/l												29					81.5J
GCI	04-210	Groundwater	VOA	Xylenes	ug/l												330					331J
GCI	04-211	Groundwater	TPH	DRO	ug/l												190					
GCI	04-211	Groundwater	TPH	GRO	ug/l												2500					
GCI	04-211	Groundwater	VOA	Benzene	ug/l												6.9					
GCI	04-211	Groundwater	VOA	Ethylbenzene	ug/l												18					
GCI	04-211	Groundwater	VOA	Toluene	ug/l												5					
GCI	04-211	Groundwater	VOA	Xylenes	ug/l												47					
GCI	04-213	Groundwater	TPH	DRO	ug/l												150J					
GCI	04-213	Groundwater	TPH	GRO	ug/l												4000					
GCI	04-213	Groundwater	VOA	Benzene	ug/l												3					
GCI	04-213	Groundwater	VOA	Ethylbenzene	ug/l												5.4					
GCI	04-213	Groundwater	VOA	Toluene	ug/l												3.6					
GCI	04-213	Groundwater	VOA	Xylenes	ug/l												14					
GCI	04-701	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	78U			79U											
GCI	04-701	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	120	78U			79U											
GCI	04-701	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	58U														
GCI	04-701	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	78U														
GCI	04-701	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20	20U			20U											
GCI	04-701	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
GCI	04-701	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									162			6.7J					
GCI	04-701	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U			14U					
GCI	04-701	Groundwater	TPH	DRO	ug/l		170	160U			160U			595U				160U				
GCI	04-701	Groundwater	TPH	GRO	ug/l	20U	25	20U			20U			184			7.9J	99		290	199	547
GCI	04-701	Groundwater	TPH	RRO	ug/l									1190U				170J				
GCI	04-701	Groundwater	VOA	Aggregate TPH	ug/l						0.2											
GCI	04-701	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U			0.2U			1.35			1U	2		1.1J	1.72	0.77
GCI	04-701	Groundwater	VOA	BTEX (total)	ug/l	0.8U					0.2											
GCI	04-701	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U			0.2U			2U			1U	9.8		6.3	10.2	1.35
GCI	04-701	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	1J	0.4U			0.4U			2.49						11		
GCI	04-701	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
GCI	04-701	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.88	0.2U			0.2UJ			2U						1.21J		
GCI	04-701	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U			0.3U			2U			1U	2.9		1.9J	1.98	0.52
GCI	04-701	Groundwater	VOA	Xylenes	ug/l												3U	13			6.51	3
GCI	04-701	Groundwater	VOA	Xylenes (total)	ug/l	0.8U					0.2											
MAUW Compound	07-103	Groundwater	TPH	C10-C24 Aliphatics	ug/l	650	89	79U	78UJ													
MAUW Compound	07-103	Groundwater	TPH	C10-C24 Aromatics	ug/l	309	78U	79U	78UJ													
MAUW Compound	07-103	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	59U														
MAUW Compound	07-103	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	79U														
MAUW Compound	07-103	Groundwater	TPH	C6-C9 Aliphatics	ug/l	38	20UJ	20U	20U													
MAUW Compound	07-103	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
MAUW Compound	07-103	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								

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MAUW Compound	07-103	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
MAUW Compound	07-103	Groundwater	TPH	DRO	ug/l		160U	160U	160UJ					562U								
MAUW Compound	07-103	Groundwater	TPH	GRO	ug/l	41	20U	20U	20U					90U								
MAUW Compound	07-103	Groundwater	TPH	RRO	ug/l									1120U								
MAUW Compound	07-103	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U	0.2U					0.5U								
MAUW Compound	07-103	Groundwater	VOA	BTEX (total)	ug/l	0.4																
MAUW Compound	07-103	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U	0.2UJ					2U								
MAUW Compound	07-103	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U	0.4U					2U								
MAUW Compound	07-103	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U	0.2U					2U								
MAUW Compound	07-103	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U	0.3U					2U								
MAUW Compound	07-103	Groundwater	VOA	Xylenes (total)	ug/l	0.4																
MAUW Compound	07-140	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	120	77U	80UJ													
MAUW Compound	07-140	Groundwater	TPH	C10-C24 Aromatics	ug/l	121	130	160J	150J													
MAUW Compound	07-140	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	58U														
MAUW Compound	07-140	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	77U	77U														
MAUW Compound	07-140	Groundwater	TPH	C6-C9 Aliphatics	ug/l	30	20UJ	21	23													
MAUW Compound	07-140	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
MAUW Compound	07-140	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
MAUW Compound	07-140	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
MAUW Compound	07-140	Groundwater	TPH	DRO	ug/l		250	190J	160UJ					562U								
MAUW Compound	07-140	Groundwater	TPH	GRO	ug/l	32	21	22	25					90U								
MAUW Compound	07-140	Groundwater	TPH	RRO	ug/l									1120U								
MAUW Compound	07-140	Groundwater	VOA	Aggregate TPH	ug/l				0.2													
MAUW Compound	07-140	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U	0.2U					0.5U								
MAUW Compound	07-140	Groundwater	VOA	BTEX (total)	ug/l	0.8U	0.2		0.2													
MAUW Compound	07-140	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U	0.2UJ					2U								
MAUW Compound	07-140	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U	0.4U					2U								
MAUW Compound	07-140	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U	0.2U					2U								
MAUW Compound	07-140	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U	0.3U					2U								
MAUW Compound	07-140	Groundwater	VOA	Xylenes (total)	ug/l	0.8U	0.2		0.2													
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	78U		79U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	78UJ		79UJ												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	58U														
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	78U														
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	DRO	ug/l		160U	160U		160UJ												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U												
Navy Exchange Bldg, UST 30027-A	04-871	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
New Roberts Housing	06-101	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	79UJ		160J												
New Roberts Housing	06-101	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	79UJ		170J												
New Roberts Housing	06-101	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	59UJ														
New Roberts Housing	06-101	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	79UJ														
New Roberts Housing	06-101	Groundwater	TPH	C6-C9 Aliphatics	ug/l	27	31	20U		20U												
New Roberts Housing	06-101	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
New Roberts Housing	06-101	Groundwater	TPH	DRO	ug/l		160U	160UJ		320J			556U									
New Roberts Housing	06-101	Groundwater	TPH	GRO	ug/l	30	34	20U		20			90U									
New Roberts Housing	06-101	Groundwater	TPH	RRO	ug/l								1110U									
New Roberts Housing	06-101	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U			0.5U									
New Roberts Housing	06-101	Groundwater	VOA	BTEX (total)	ug/l	0.8U		0.2														
New Roberts Housing	06-101	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U		0.2U			2U									
New Roberts Housing	06-101	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U		0.4U			2U									
New Roberts Housing	06-101	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U			2U									
New Roberts Housing	06-101	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U			2U									
New Roberts Housing	06-101	Groundwater	VOA	Xylenes (total)	ug/l	0.8U		0.2														
New Roberts Housing	06-300	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	79UJ		76UJ												
New Roberts Housing	06-300	Groundwater	TPH	C10-C24 Aromatics	ug/l	102	110	79UJ		190J												
New Roberts Housing	06-300	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	59UJ														
New Roberts Housing	06-300	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	79UJ														
New Roberts Housing	06-300	Groundwater	TPH	C6-C9 Aliphatics	ug/l	92	87	49		53												
New Roberts Housing	06-300	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
New Roberts Housing	06-300	Groundwater	TPH	DRO	ug/l		160U	160UJ		240J			515U									
New Roberts Housing	06-300	Groundwater	TPH	GRO	ug/l	97	91	51		57			90U									
New Roberts Housing	06-300	Groundwater	TPH	RRO	ug/l								1030U									
New Roberts Housing	06-300	Groundwater	VOA	Aggregate TPH	ug/l					0.2												
New Roberts Housing	06-300	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U			0.5U									
New Roberts Housing	06-300	Groundwater	VOA	BTEX (total)	ug/l	0.8U				0.92												
New Roberts Housing	06-300	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.41J	0.2U		0.2U			2U									
New Roberts Housing	06-300	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	1	0.4U		0.92J			2U									
New Roberts Housing	06-300	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U			2U									
New Roberts Housing	06-300	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U			2U									
New Roberts Housing	06-300	Groundwater	VOA	Xylenes (total)	ug/l	0.8U				0.92												
New Roberts Housing	06-301	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U																
New Roberts Housing	06-301	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U																
New Roberts Housing	06-301	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U																
New Roberts Housing	06-301	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U																
New Roberts Housing	06-301	Groundwater	TPH	C6-C9 Aliphatics	ug/l	35																
New Roberts Housing	06-301	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U																
New Roberts Housing	06-301	Groundwater	TPH	DRO	ug/l								526U									
New Roberts Housing	06-301	Groundwater	TPH	GRO	ug/l	37							90U									
New Roberts Housing	06-301	Groundwater	TPH	RRO	ug/l								1050U									
New Roberts Housing	06-301	Groundwater	VOA	Benzene	ug/l	0.4U							0.5U									
New Roberts Housing	06-301	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
New Roberts Housing	06-301	Groundwater	VOA	Ethylbenzene	ug/l	0.4U							2U									
New Roberts Housing	06-301	Groundwater	VOA	m,p-Xylene	ug/l	0.8U							2U									

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Non-Landfill Sites
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
New Roberts Housing	06-301	Groundwater	VOA	o-Xylene	ug/l	0.4U							2U									
New Roberts Housing	06-301	Groundwater	VOA	Toluene	ug/l	0.6U							2U									
New Roberts Housing	06-301	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
New Roberts Housing	06-302	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	75U		80UJ												
New Roberts Housing	06-302	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	75U		80UJ												
New Roberts Housing	06-302	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	57U														
New Roberts Housing	06-302	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	75U														
New Roberts Housing	06-302	Groundwater	TPH	C6-C9 Aliphatics	ug/l	24	20UJ	20U		20U												
New Roberts Housing	06-302	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
New Roberts Housing	06-302	Groundwater	TPH	DRO	ug/l		160U	150U		160UJ			562U									
New Roberts Housing	06-302	Groundwater	TPH	GRO	ug/l	25	20U	20U		20U			90U									
New Roberts Housing	06-302	Groundwater	TPH	RRO	ug/l								1120U									
New Roberts Housing	06-302	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U			0.5U									
New Roberts Housing	06-302	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
New Roberts Housing	06-302	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U		0.2U			2U									
New Roberts Housing	06-302	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U		0.4U			2U									
New Roberts Housing	06-302	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U			2U									
New Roberts Housing	06-302	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U			2U									
New Roberts Housing	06-302	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
NMCB	02-670	Groundwater	TPH	DRO	ug/l									100U								
NMCB	02-670	Groundwater	TPH	GRO	ug/l									50U								
NMCB	02-670	Groundwater	VOA	Benzene	ug/l									0.2U								
NMCB	02-670	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NMCB	02-670	Groundwater	VOA	Toluene	ug/l									0.5U								
NMCB	02-670	Groundwater	VOA	Xylenes	ug/l									1U								
NMCB	E-201	Groundwater	TPH	DRO	ug/l									3480								
NMCB	E-201	Groundwater	TPH	GRO	ug/l									16400								
NMCB	E-201	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										20U							
NMCB	E-201	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,1-Dichloroethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,1-Dichloroethene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,1-Dichloropropene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										20U							
NMCB	E-201	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										20U							
NMCB	E-201	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										287							
NMCB	E-201	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										25U							
NMCB	E-201	Groundwater	VOA	1,2-Dibromoethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,2-Dichloroethane	ug/l										20U							
NMCB	E-201	Groundwater	VOA	1,2-Dichloropropane	ug/l										20U							
NMCB	E-201	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										84.6							
NMCB	E-201	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,3-Dichloropropane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	2,2-Dichloropropane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	2-Butanone	ug/l										500U							
NMCB	E-201	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										100U							
NMCB	E-201	Groundwater	VOA	2-Chlorotoluene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	2-Hexanone	ug/l										100U							
NMCB	E-201	Groundwater	VOA	4-Chlorotoluene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	4-Isopropyltoluene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										100U							
NMCB	E-201	Groundwater	VOA	Benzene	ug/l										5U							
NMCB	E-201	Groundwater	VOA	Bromobenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Bromochloromethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Bromodichloromethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Bromoform	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Bromomethane	ug/l										20U							
NMCB	E-201	Groundwater	VOA	Carbon disulfide	ug/l										100U							
NMCB	E-201	Groundwater	VOA	Carbon tetrachloride	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Chlorobenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Chloroethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Chloroform	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Chloromethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Dibromochloromethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Dibromomethane	ug/l										20U							
NMCB	E-201	Groundwater	VOA	Dichlorodifluoromethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Ethylbenzene	ug/l									345	441							
NMCB	E-201	Groundwater	VOA	Hexachlorobutadiene	ug/l										20U							
NMCB	E-201	Groundwater	VOA	Isopropylbenzene	ug/l										62.5							
NMCB	E-201	Groundwater	VOA	m,p-Xylene	ug/l										1860							
NMCB	E-201	Groundwater	VOA	Methylene chloride	ug/l										50U							
NMCB	E-201	Groundwater	VOA	Naphthalene	ug/l										116							
NMCB	E-201	Groundwater	VOA	n-Butylbenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	n-Propylbenzene	ug/l										45.9							
NMCB	E-201	Groundwater	VOA	o-Xylene	ug/l										330							
NMCB	E-201	Groundwater	VOA	sec-Butylbenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Styrene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	tert-Butylbenzene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Tetrachloroethene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Toluene	ug/l									25U	10U							
NMCB	E-201	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Trichloroethene	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Trichlorofluoromethane	ug/l										10U							
NMCB	E-201	Groundwater	VOA	Vinyl chloride	ug/l										20U							

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NMCB	E-201	Groundwater	VOA	Xylenes	ug/l									1660								
NMCB	E-202	Groundwater	TPH	DRO	ug/l									100U								
NMCB	E-202	Groundwater	TPH	GRO	ug/l									50U								
NMCB	E-202	Groundwater	VOA	Benzene	ug/l									0.2U								
NMCB	E-202	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NMCB	E-202	Groundwater	VOA	Toluene	ug/l									0.5U								
NMCB	E-202	Groundwater	VOA	Xylenes	ug/l									1U								
NMCB	E-203	Groundwater	TPH	DRO	ug/l									133								
NMCB	E-203	Groundwater	TPH	GRO	ug/l									50U								
NMCB	E-203	Groundwater	VOA	Benzene	ug/l									0.2U								
NMCB	E-203	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NMCB	E-203	Groundwater	VOA	Toluene	ug/l									0.5U								
NMCB	E-203	Groundwater	VOA	Xylenes	ug/l									1U								
NMCB	TDEM-10	Groundwater	TIN	Antimony	ug/l									1U								
NMCB	TDEM-10	Groundwater	TIN	Arsenic	ug/l									84.6								
NMCB	TDEM-10	Groundwater	TIN	Barium	ug/l									754								
NMCB	TDEM-10	Groundwater	TIN	Beryllium	ug/l									5.12								
NMCB	TDEM-10	Groundwater	TIN	Cadmium	ug/l									6.5								
NMCB	TDEM-10	Groundwater	TIN	Chromium	ug/l									652								
NMCB	TDEM-10	Groundwater	TIN	Lead	ug/l									91.5								
NMCB	TDEM-10	Groundwater	TIN	Mercury	ug/l									1U								
NMCB	TDEM-10	Groundwater	TIN	Nickel	ug/l									225								
NMCB	TDEM-10	Groundwater	TIN	Selenium	ug/l									2.7								
NMCB	TDEM-10	Groundwater	TIN	Thallium	ug/l									1.75								
NORPAC Hill	04-145	Groundwater	SVOA	Acenaphthene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Acenaphthylene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Anthracene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Benzo(a)anthracene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Benzo(a)pyrene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Chrysene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Fluoranthene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Fluorene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Naphthalene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Phenanthrene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	SVOA	Pyrene	ug/l									0.1U								
NORPAC Hill	04-145	Groundwater	TPH	DRO	ug/l									11900								1110J
NORPAC Hill	04-145	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	04-145	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									5U								
NORPAC Hill	04-145	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2-Dichloroethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,2-Dichloropropane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	2-Butanone	ug/l									10U								
NORPAC Hill	04-145	Groundwater	VOA	2-Chlorotoluene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	2-Hexanone	ug/l									10U								
NORPAC Hill	04-145	Groundwater	VOA	4-Chlorotoluene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U								
NORPAC Hill	04-145	Groundwater	VOA	Acetone	ug/l									25U								
NORPAC Hill	04-145	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	04-145	Groundwater	VOA	Bromobenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Bromochloromethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Bromodichloromethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Bromoform	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Bromomethane	ug/l									2U								
NORPAC Hill	04-145	Groundwater	VOA	Carbon disulfide	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Carbon tetrachloride	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Chlorobenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Chloroethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Chloroform	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Chloromethane	ug/l									5U								
NORPAC Hill	04-145	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Dibromochloromethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Dibromomethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1UJ								
NORPAC Hill	04-145	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	04-145	Groundwater	VOA	Hexachlorobutadiene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Isopropylbenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	m,p-Xylene	ug/l									2U								

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
NORPAC Hill	04-145	Groundwater	VOA	Methylene chloride	ug/l									5U								
NORPAC Hill	04-145	Groundwater	VOA	Naphthalene	ug/l									1.68								
NORPAC Hill	04-145	Groundwater	VOA	n-Butylbenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	n-Propylbenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	o-Xylene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	sec-Butylbenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Styrene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	tert-Butylbenzene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Tetrachloroethene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	04-145	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Trichloroethene	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Vinyl chloride	ug/l									1U								
NORPAC Hill	04-145	Groundwater	VOA	Xylenes	ug/l									1U								
NORPAC Hill	04-147	Groundwater	TPH	DRO	ug/l									943								4240J
NORPAC Hill	04-147	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	04-147	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	04-147	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	04-147	Groundwater	VOA	Toluene	ug/l									0.598								
NORPAC Hill	04-147	Groundwater	VOA	Xylenes	ug/l									1.41								
NORPAC Hill	04-149	Groundwater	TPH	DRO	ug/l									5220								
NORPAC Hill	04-149	Groundwater	TPH	GRO	ug/l									51.3								
NORPAC Hill	04-149	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	04-149	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	04-149	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	04-149	Groundwater	VOA	Xylenes	ug/l									1U								
NORPAC Hill	04-150	Groundwater	TPH	DRO	ug/l									168								
NORPAC Hill	04-150	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	04-150	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	04-150	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	04-150	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	04-150	Groundwater	VOA	Xylenes	ug/l									1U								
NORPAC Hill	04-403	Groundwater	TPH	DRO	ug/l									1210								2810J
NORPAC Hill	04-403	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	04-403	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	04-403	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	04-403	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	04-403	Groundwater	VOA	Xylenes	ug/l									1U								
NORPAC Hill	04-404	Groundwater	TPH	DRO	ug/l									373								
NORPAC Hill	04-404	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	04-404	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	04-404	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	04-404	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	04-404	Groundwater	VOA	Xylenes	ug/l									1U								
NORPAC Hill	04-405	Groundwater	TPH	DRO	ug/l									6620								2870J
NORPAC Hill	04-405	Groundwater	TPH	GRO	ug/l									84.4								
NORPAC Hill	04-405	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	04-405	Groundwater	VOA	Ethylbenzene	ug/l									1.46								
NORPAC Hill	04-405	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	04-405	Groundwater	VOA	Xylenes	ug/l									3.86J								
NORPAC Hill	NS-2	Groundwater	TPH	DRO	ug/l									1680								316J
NORPAC Hill	NS-2	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	NS-2	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	NS-2	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	NS-2	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	NS-2	Groundwater	VOA	Xylenes	ug/l									1U								
NORPAC Hill	NS-3	Groundwater	TPH	DRO	ug/l									235								
NORPAC Hill	NS-3	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	NS-3	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	NS-3	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	NS-3	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	NS-3	Groundwater	VOA	Xylenes	ug/l									1U								
NORPAC Hill	NS-4	Groundwater	TPH	DRO	ug/l									297								
NORPAC Hill	NS-4	Groundwater	TPH	GRO	ug/l									50U								
NORPAC Hill	NS-4	Groundwater	VOA	Benzene	ug/l									0.2U								
NORPAC Hill	NS-4	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
NORPAC Hill	NS-4	Groundwater	VOA	Toluene	ug/l									0.5U								
NORPAC Hill	NS-4	Groundwater	VOA	Xylenes	ug/l									1U								
NSGA	12-253	Groundwater	TPH	DRO	ug/l												860					895J
Officer Hill & Amulet	05-372	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
Officer Hill & Amulet	05-372	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
Officer Hill & Amulet	05-372	Groundwater	TPH	DRO	ug/l									526U				210				
Officer Hill & Amulet	05-372	Groundwater	TPH	GRO	ug/l									90U				14J				
Officer Hill & Amulet	05-372	Groundwater	TPH	RRO	ug/l									1050U				280U				
Officer Hill & Amulet	05-372	Groundwater	VOA	Benzene	ug/l									0.5U								
Officer Hill & Amulet	05-372	Groundwater	VOA	Ethylbenzene	ug/l									2U								
Officer Hill & Amulet	05-372	Groundwater	VOA	m,p-Xylene	ug/l									2U								
Officer Hill & Amulet	05-372	Groundwater	VOA	o-Xylene	ug/l									2U								
Officer Hill & Amulet	05-372	Groundwater	VOA	Toluene	ug/l									2U								
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78U	77U	78U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	78U	77UJ	78UJ													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59U	58U														
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	78U														
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	C6-C9 Aliphatics	ug/l	23	20UJ	20	20U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	DRO	ug/l		160U	150U	160UJ													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	TPH	GRO	ug/l	24	20U	21	20U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U	0.2U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	VOA	BTEX (total)	ug/l	0.4U																

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ROICC Warehouse, UST ROICC-3	08-204	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U	0.2U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U	0.4U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U	0.2U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U	0.3U													
ROICC Warehouse, UST ROICC-3	08-204	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	76U	78U	75UJ													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	76U	110J	79J													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	57U	59UJ														
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	76U	78U														
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20	20U	20U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	DRO	ug/l		150U	160	150UJ													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	TPH	GRO	ug/l	20U	23	20U	20U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	Aggregate TPH	ug/l				0.2													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U	0.2U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	BTEX (total)	ug/l	0.4U	0.2	0.2	0.2													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U	0.2U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U	0.4U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U	0.2U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U	0.3U													
ROICC Warehouse, UST ROICC-3	08-801	Groundwater	VOA	Xylenes (total)	ug/l	0.4U	0.2	0.2	0.2													
ROICC-7	08-160	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78U	78U		82U												
ROICC-7	08-160	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	88	78U		83J												
ROICC-7	08-160	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	59UJ														
ROICC-7	08-160	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	78UJ														
ROICC-7	08-160	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	27J	20U		20U												
ROICC-7	08-160	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
ROICC-7	08-160	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
ROICC-7	08-160	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
ROICC-7	08-160	Groundwater	TPH	DRO	ug/l		160U	160U		160UJ								75J				
ROICC-7	08-160	Groundwater	TPH	GRO	ug/l	20U	30	20U		20U			90U					12J				
ROICC-7	08-160	Groundwater	TPH	RRO	ug/l													150J				
ROICC-7	08-160	Groundwater	VOA	Benzene	ug/l	0.5	0.45	0.56		0.57			1.01					0.59J				
ROICC-7	08-160	Groundwater	VOA	BTEX (total)	ug/l	0.5																
ROICC-7	08-160	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U		0.2U			2U					1U				
ROICC-7	08-160	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.57	0.54J		0.64			2U									
ROICC-7	08-160	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.23	0.23		0.26			2U									
ROICC-7	08-160	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U			2U					1U				
ROICC-7	08-160	Groundwater	VOA	Xylenes	ug/l													3U				
ROICC-7	08-160	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
ROICC-7	08-175	Groundwater	TPH	GRO	ug/l															39U	36.8UJ	
ROICC-7	08-175	Groundwater	VOA	Benzene	ug/l															1.1J	0.18J	
ROICC-7	08-175	Groundwater	VOA	Ethylbenzene	ug/l															2U	0.5U	
ROICC-7	08-175	Groundwater	VOA	m,p-Xylene	ug/l															2U		
ROICC-7	08-175	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
ROICC-7	08-175	Groundwater	VOA	o-Xylene	ug/l															2U		
ROICC-7	08-175	Groundwater	VOA	Toluene	ug/l															2U	0.5U	
ROICC-7	08-175	Groundwater	VOA	Xylenes	ug/l																0.31J	
ROICC-7	08-200	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78U	78U	78UJ													
ROICC-7	08-200	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	78U	78U	78UJ													
ROICC-7	08-200	Groundwater	TPH	C10-C25 Aliphatics	ug/l													120U				
ROICC-7	08-200	Groundwater	TPH	C10-C25 Aromatics	ug/l													83U				
ROICC-7	08-200	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	50U	58U														
ROICC-7	08-200	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	70U	78UJ														
ROICC-7	08-200	Groundwater	TPH	C6-C9 Aliphatics	ug/l	670J	890J	290	500J													
ROICC-7	08-200	Groundwater	TPH	C6-C9 Aromatics	ug/l	590J	310	200	360J													
ROICC-7	08-200	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								377									
ROICC-7	08-200	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								337									
ROICC-7	08-200	Groundwater	TPH	DRO	ug/l		160U	160U	160UJ									69J				
ROICC-7	08-200	Groundwater	TPH	GRO	ug/l	1300J	1500J	500	860J				714							740	627	28.9J
ROICC-7	08-200	Groundwater	TPH	RRO	ug/l													130J				
ROICC-7	08-200	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,1,1-Trichloroethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	1,1,2-Trichloroethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,1-Dichloroethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,1-Dichloroethene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,1-Dichloropropene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l								2.5U									
ROICC-7	08-200	Groundwater	VOA	1,2-Dibromoethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,2-Dichlorobenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,2-Dichloroethane	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	1,2-Dichloropropane	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,3-Dichlorobenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,3-Dichloropropane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	1,4-Dichlorobenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	2,2-Dichloropropane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	2-Butanone	ug/l								50U									
ROICC-7	08-200	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10U									
ROICC-7	08-200	Groundwater	VOA	2-Chlorotoluene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	2-Hexanone	ug/l								10U									
ROICC-7	08-200	Groundwater	VOA	4-Chlorotoluene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	4-Isopropyltoluene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	4-Methyl-2-pentanone	ug/l								10U									
ROICC-7	08-200	Groundwater	VOA	Benzene	ug/l	550J	590J	200	360J				361					250		390	288J	14.6
ROICC-7	08-200	Groundwater	VOA	Bromobenzene	ug/l								1U									

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
ROICC-7	08-200	Groundwater	VOA	Bromochloromethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Bromodichloromethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Bromoform	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Bromomethane	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	BTEX (total)	ug/l	553.7		202.64														
ROICC-7	08-200	Groundwater	VOA	Carbon disulfide	ug/l								10U									
ROICC-7	08-200	Groundwater	VOA	Carbon tetrachloride	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Chlorobenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Chloroethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Chloroform	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Chloromethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Dibromochloromethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Dibromomethane	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	Dichlorodifluoromethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Ethylbenzene	ug/l	1.2	1.5	0.69	1.1				1.04					2J		0.69J	0.7J	0.5U
ROICC-7	08-200	Groundwater	VOA	Hexachlorobutadiene	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	Isopropylbenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	m,p-Xylene	ug/l	1.5	1.8	1.1	1.3				2U							0.77J		
ROICC-7	08-200	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
ROICC-7	08-200	Groundwater	VOA	Methylene chloride	ug/l								5U									
ROICC-7	08-200	Groundwater	VOA	Naphthalene	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	n-Butylbenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	n-Propylbenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U	0.2U				1U							2U		
ROICC-7	08-200	Groundwater	VOA	sec-Butylbenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Styrene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	tert-Butylbenzene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Tetrachloroethene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Toluene	ug/l	1	1.8	0.85	0.35				1U					5U		2U	0.34J	0.24J
ROICC-7	08-200	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Trichloroethene	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Trichlorofluoromethane	ug/l								1U									
ROICC-7	08-200	Groundwater	VOA	Vinyl chloride	ug/l								2U									
ROICC-7	08-200	Groundwater	VOA	Xylenes	ug/l													15U			1J	1U
ROICC-7	08-200	Groundwater	VOA	Xylenes (total)	ug/l	1.5		1.1														
ROICC-7	08-201	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	75U	78U	80UJ													
ROICC-7	08-201	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	75U	78U	80UJ													
ROICC-7	08-201	Groundwater	TPH	C10-C25 Aliphatics	ug/l													42J				
ROICC-7	08-201	Groundwater	TPH	C10-C25 Aromatics	ug/l													84U				
ROICC-7	08-201	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	56U	58U														
ROICC-7	08-201	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	75U	78U														
ROICC-7	08-201	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U	20U													
ROICC-7	08-201	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
ROICC-7	08-201	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
ROICC-7	08-201	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
ROICC-7	08-201	Groundwater	TPH	DRO	ug/l		150U	160U	160UJ									110J				
ROICC-7	08-201	Groundwater	TPH	GRO	ug/l	20U	20U	20U	20U				90U									
ROICC-7	08-201	Groundwater	TPH	RRO	ug/l													180J				
ROICC-7	08-201	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,1,1-Trichloroethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	1,1,2-Trichloroethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,1-Dichloroethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,1-Dichloroethene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,1-Dichloropropene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l								2.5U									
ROICC-7	08-201	Groundwater	VOA	1,2-Dibromoethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,2-Dichlorobenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,2-Dichloroethane	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	1,2-Dichloropropane	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,3-Dichlorobenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,3-Dichloropropane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	1,4-Dichlorobenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	2,2-Dichloropropane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	2-Butanone	ug/l								50U									
ROICC-7	08-201	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10U									
ROICC-7	08-201	Groundwater	VOA	2-Chlorotoluene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	2-Hexanone	ug/l								10U									
ROICC-7	08-201	Groundwater	VOA	4-Chlorotoluene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	4-Isopropyltoluene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	4-Methyl-2-pentanone	ug/l								10U									
ROICC-7	08-201	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U	0.2U				0.5U					1.2				
ROICC-7	08-201	Groundwater	VOA	Bromobenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Bromochloromethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Bromodichloromethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Bromoform	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Bromomethane	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
ROICC-7	08-201	Groundwater	VOA	Carbon disulfide	ug/l								10U									
ROICC-7	08-201	Groundwater	VOA	Carbon tetrachloride	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Chlorobenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Chloroethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Chloroform	ug/l								1U									

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ROICC-7	08-201	Groundwater	VOA	Chloromethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Dibromochloromethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Dibromomethane	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	Dichlorodifluoromethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U	0.2UJ				1U					1U				
ROICC-7	08-201	Groundwater	VOA	Hexachlorobutadiene	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	Isopropylbenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U	0.4U				2U									
ROICC-7	08-201	Groundwater	VOA	Methylene chloride	ug/l								7.52									
ROICC-7	08-201	Groundwater	VOA	Naphthalene	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	n-Butylbenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	n-Propylbenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U	0.2U				1U									
ROICC-7	08-201	Groundwater	VOA	sec-Butylbenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Styrene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	tert-Butylbenzene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Tetrachloroethene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U	0.3U				1U					1U				
ROICC-7	08-201	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Trichloroethene	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Trichlorofluoromethane	ug/l								1U									
ROICC-7	08-201	Groundwater	VOA	Vinyl chloride	ug/l								2U									
ROICC-7	08-201	Groundwater	VOA	Xylenes	ug/l													3U				
ROICC-7	08-201	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
ROICC-7	08-202	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	85	77U	79UJ													
ROICC-7	08-202	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	98J	79UJ													
ROICC-7	08-202	Groundwater	TPH	C10-C25 Aliphatics	ug/l													29J				
ROICC-7	08-202	Groundwater	TPH	C10-C25 Aromatics	ug/l													83U				
ROICC-7	08-202	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	58UJ														
ROICC-7	08-202	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	77U														
ROICC-7	08-202	Groundwater	TPH	C6-C9 Aliphatics	ug/l	51	40J	42J	42													
ROICC-7	08-202	Groundwater	TPH	C6-C9 Aromatics	ug/l	31J	26	22	24													
ROICC-7	08-202	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
ROICC-7	08-202	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
ROICC-7	08-202	Groundwater	TPH	DRO	ug/l		160U	150U	160UJ									150J				
ROICC-7	08-202	Groundwater	TPH	GRO	ug/l	83	66	64J	66				90U							66U	58UJ	412
ROICC-7	08-202	Groundwater	TPH	RRO	ug/l													180J				
ROICC-7	08-202	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,1,1-Trichloroethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	1,1,2-Trichloroethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,1-Dichloroethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,1-Dichloroethene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,1-Dichloropropene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l								2.5U									
ROICC-7	08-202	Groundwater	VOA	1,2-Dibromoethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,2-Dichlorobenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,2-Dichloroethane	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	1,2-Dichloropropane	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,3-Dichlorobenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,3-Dichloropropane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	1,4-Dichlorobenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	2,2-Dichloropropane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	2-Butanone	ug/l								50U									
ROICC-7	08-202	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10U									
ROICC-7	08-202	Groundwater	VOA	2-Chlorotoluene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	2-Hexanone	ug/l								10U									
ROICC-7	08-202	Groundwater	VOA	4-Chlorotoluene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	4-Isopropyltoluene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	4-Methyl-2-pentanone	ug/l								10U									
ROICC-7	08-202	Groundwater	VOA	Aggregate TPH	ug/l	29.36																
ROICC-7	08-202	Groundwater	VOA	Benzene	ug/l	29	24	21	22				17.8					18		24	16	233J
ROICC-7	08-202	Groundwater	VOA	Bromobenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Bromochloromethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Bromodichloromethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Bromoform	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Bromomethane	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	BTEX (total)	ug/l	29.36																
ROICC-7	08-202	Groundwater	VOA	Carbon disulfide	ug/l								10U									
ROICC-7	08-202	Groundwater	VOA	Carbon tetrachloride	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Chlorobenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Chloroethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Chloroform	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Chloromethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l								8									
ROICC-7	08-202	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Dibromochloromethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Dibromomethane	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	Dichlorodifluoromethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U	0.2U				1U					1U		2U	0.5U	0.54J
ROICC-7	08-202	Groundwater	VOA	Hexachlorobutadiene	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	Isopropylbenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U	0.4U				2U							2U		

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ROICC-7	08-202	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
ROICC-7	08-202	Groundwater	VOA	Methylene chloride	ug/l								5U									
ROICC-7	08-202	Groundwater	VOA	Naphthalene	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	n-Butylbenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	n-Propylbenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U	0.2U				1U							2U		
ROICC-7	08-202	Groundwater	VOA	sec-Butylbenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Styrene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	tert-Butylbenzene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Tetrachloroethene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Toluene	ug/l	0.36	0.34	0.31	0.31				1U					0.59J		2U	0.27J	0.32J
ROICC-7	08-202	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l								1.27									
ROICC-7	08-202	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Trichloroethene	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Trichlorofluoromethane	ug/l								1U									
ROICC-7	08-202	Groundwater	VOA	Vinyl chloride	ug/l								2U									
ROICC-7	08-202	Groundwater	VOA	Xylenes	ug/l													3U			1U	1.08J
ROICC-7	08-202	Groundwater	VOA	Xylenes (total)	ug/l	0.2																
ROICC-8	08-153	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78U	78U		79U												
ROICC-8	08-153	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	120	78U		79UJ												
ROICC-8	08-153	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	58UJ														
ROICC-8	08-153	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	78UJ														
ROICC-8	08-153	Groundwater	TPH	C6-C9 Aliphatics	ug/l	53	240J	39		43												
ROICC-8	08-153	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
ROICC-8	08-153	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
ROICC-8	08-153	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
ROICC-8	08-153	Groundwater	TPH	DRO	ug/l		180	160U		160UJ								160U				
ROICC-8	08-153	Groundwater	TPH	GRO	ug/l	59	260	42		47			90U					17.4J				
ROICC-8	08-153	Groundwater	TPH	RRO	ug/l													120J				
ROICC-8	08-153	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2J			0.536					1U				
ROICC-8	08-153	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
ROICC-8	08-153	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.37	0.2U		0.2U			2U					1U				
ROICC-8	08-153	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	1.4	0.4U		0.4U			2U									
ROICC-8	08-153	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.76	0.24		0.2U			2U									
ROICC-8	08-153	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U			2U					1U				
ROICC-8	08-153	Groundwater	VOA	Xylenes	ug/l													3U				
ROICC-8	08-153	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
Runway 5-23	14-100	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	100	78U		79U												
Runway 5-23	14-100	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	88	150J		79UJ												
Runway 5-23	14-100	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	58U														
Runway 5-23	14-100	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	78U														
Runway 5-23	14-100	Groundwater	TPH	C6-C10 Aliphatics	ug/l													1500			1770J	
Runway 5-23	14-100	Groundwater	TPH	C6-C10 Aromatics	ug/l													420			755J	
Runway 5-23	14-100	Groundwater	TPH	C6-C9 Aliphatics	ug/l	3700	2200J	3600		3100												
Runway 5-23	14-100	Groundwater	TPH	C6-C9 Aromatics	ug/l	920	580	780		880												
Runway 5-23	14-100	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									1830						630J		
Runway 5-23	14-100	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									261						410		
Runway 5-23	14-100	Groundwater	TPH	DRO	ug/l		190	170		160UJ				532U				1200				
Runway 5-23	14-100	Groundwater	TPH	GRO	ug/l	4600	2800	4400		4000				2090						1000J	3910	1770
Runway 5-23	14-100	Groundwater	TPH	RRO	ug/l									1060U				280U				
Runway 5-23	14-100	Groundwater	VOA	Benzene	ug/l	10U	4.2J	5.6J		2.9J				12.5						1.2J	0.76	
Runway 5-23	14-100	Groundwater	VOA	BTEX (total)	ug/l	388																
Runway 5-23	14-100	Groundwater	VOA	Ethylbenzene	ug/l	38	7.9	23		13J				5.71						1.9J	15.8	
Runway 5-23	14-100	Groundwater	VOA	m,p-Xylene	ug/l	350	140	250		230				120						69J		
Runway 5-23	14-100	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
Runway 5-23	14-100	Groundwater	VOA	o-Xylene	ug/l	10U	2U	4U		2U				2U						2U		
Runway 5-23	14-100	Groundwater	VOA	Toluene	ug/l	15U	3U	6U		3U				2U						2U	1.77	
Runway 5-23	14-100	Groundwater	VOA	Xylenes	ug/l																140	
Runway 5-23	14-100	Groundwater	VOA	Xylenes (total)	ug/l	350																
Runway 5-23	14-110	Groundwater	TPH	C6-C10 Aliphatics	ug/l																623J	
Runway 5-23	14-110	Groundwater	TPH	C6-C10 Aromatics	ug/l																250UJ	
Runway 5-23	14-110	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l															860		
Runway 5-23	14-110	Groundwater	TPH	GRO - Aromatic Fraction	ug/l															56		
Runway 5-23	14-110	Groundwater	TPH	GRO	ug/l															920	672	631
Runway 5-23	14-110	Groundwater	VOA	Benzene	ug/l															2U	0.5U	0.5U
Runway 5-23	14-110	Groundwater	VOA	Ethylbenzene	ug/l															2U	0.5U	0.5U
Runway 5-23	14-110	Groundwater	VOA	m,p-Xylene	ug/l															9.4		
Runway 5-23	14-110	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
Runway 5-23	14-110	Groundwater	VOA	o-Xylene	ug/l															2U		
Runway 5-23	14-110	Groundwater	VOA	Toluene	ug/l															2U	0.5U	0.5U
Runway 5-23	14-110	Groundwater	VOA	Xylenes	ug/l																0.66J	1.14
SA 76	76-147	Groundwater	DIN	Lead	ug/l									0.3U				0.1U				
SA 76	76-147	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									29U								
SA 76	76-147	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									210U								
SA 76	76-147	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2-Chloronaphthalene	ug/l									29U								
SA 76	76-147	Groundwater	SVOA	2-Chlorophenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2-Methylnaphthalene	ug/l									29U				0.051U				
SA 76	76-147	Groundwater	SVOA	2-Methylphenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2-Nitroaniline	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	2-Nitrophenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									23U								

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SA 76	76-147	Groundwater	SVOA	3-Nitroaniline	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									210U								
SA 76	76-147	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	4-Chloroaniline	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	4-Nitroaniline	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	4-Nitrophenol	ug/l									160U								
SA 76	76-147	Groundwater	SVOA	Acenaphthene	ug/l									29U				0.051U				
SA 76	76-147	Groundwater	SVOA	Acenaphthylene	ug/l									23U				0.051U				
SA 76	76-147	Groundwater	SVOA	Aniline	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Anthracene	ug/l									23U				0.31U				
SA 76	76-147	Groundwater	SVOA	Azobenzene	ug/l									230U								
SA 76	76-147	Groundwater	SVOA	Benzo(a)anthracene	ug/l									23U				0.051U				
SA 76	76-147	Groundwater	SVOA	Benzo(a)pyrene	ug/l									23U				0.064U				
SA 76	76-147	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									23U				0.051U				
SA 76	76-147	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									29U				0.092U				
SA 76	76-147	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									29U				0.1U				
SA 76	76-147	Groundwater	SVOA	Benzoic acid	ug/l									58U								
SA 76	76-147	Groundwater	SVOA	Benzyl alcohol	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									29U								
SA 76	76-147	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Butylbenzylphthalate	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Chrysene	ug/l									23U				0.051U				
SA 76	76-147	Groundwater	SVOA	Cresols	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									29U				0.15U				
SA 76	76-147	Groundwater	SVOA	Dibenzofuran	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Diethylphthalate	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Dimethylphthalate	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Di-n-butylphthalate	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Di-n-octylphthalate	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Fluoranthene	ug/l									23U				0.051U				
SA 76	76-147	Groundwater	SVOA	Fluorene	ug/l									23U				0.12U				
SA 76	76-147	Groundwater	SVOA	Hexachlorobenzene	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Hexachlorobutadiene	ug/l									35U								
SA 76	76-147	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									35U								
SA 76	76-147	Groundwater	SVOA	Hexachloroethane	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									23U				0.2U				
SA 76	76-147	Groundwater	SVOA	Isophorone	ug/l									29U								
SA 76	76-147	Groundwater	SVOA	Naphthalene	ug/l									23U				0.24U				
SA 76	76-147	Groundwater	SVOA	Nitrobenzene	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									23U								
SA 76	76-147	Groundwater	SVOA	Pentachlorophenol	ug/l									160U								
SA 76	76-147	Groundwater	SVOA	Phenanthrene	ug/l									23U				0.051U				
SA 76	76-147	Groundwater	SVOA	Phenol	ug/l									12U								
SA 76	76-147	Groundwater	SVOA	Pyrene	ug/l									23U				0.051U				
SA 76	76-147	Groundwater	TIN	Lead	ug/l									2U				0.224				
SA 76	76-147	Groundwater	TPH	C10-C25 Aliphatics	ug/l													120U				
SA 76	76-147	Groundwater	TPH	C10-C25 Aromatics	ug/l													83U				
SA 76	76-147	Groundwater	TPH	C6-C10 Aliphatics	ug/l													6.3J				
SA 76	76-147	Groundwater	TPH	C6-C10 Aromatics	ug/l													14U				
SA 76	76-147	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SA 76	76-147	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SA 76	76-147	Groundwater	TPH	DRO	ug/l									1380								
SA 76	76-147	Groundwater	TPH	GRO	ug/l									90U				7.5J				
SA 76	76-147	Groundwater	TPH	RRO	ug/l									1140U								
SA 76	76-147	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SA 76	76-147	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U				
SA 76	76-147	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	2-Butanone	ug/l									50U				50U				
SA 76	76-147	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U				
SA 76	76-147	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	2-Hexanone	ug/l									10U				20U				
SA 76	76-147	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U				
SA 76	76-147	Groundwater	VOA	Acetone	ug/l													50U				
SA 76	76-147	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SA 76	76-147	Groundwater	VOA	Benzene	ug/l									0.5U				1U				

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SA 76	76-147	Groundwater	VOA	Bromobenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Bromoform	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Bromomethane	ug/l									2U				5U				
SA 76	76-147	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U				
SA 76	76-147	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Chloroethane	ug/l									1U				5U				
SA 76	76-147	Groundwater	VOA	Chloroform	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Chloromethane	ug/l									1U				5U				
SA 76	76-147	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Dibromomethane	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U				
SA 76	76-147	Groundwater	VOA	Ethylbenzene	ug/l									1U				1U				
SA 76	76-147	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	Iodomethane	ug/l													5U				
SA 76	76-147	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	m,p-Xylene	ug/l									2.07				2U				
SA 76	76-147	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U				
SA 76	76-147	Groundwater	VOA	Methylene chloride	ug/l									5U				5U				
SA 76	76-147	Groundwater	VOA	Naphthalene	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	n-Butylbenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	n-Propylbenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	o-Xylene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Styrene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Tetrachloroethene	ug/l									1U				0.86J				
SA 76	76-147	Groundwater	VOA	Toluene	ug/l									1U				1U				
SA 76	76-147	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SA 76	76-147	Groundwater	VOA	Trichloroethene	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U				
SA 76	76-147	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SA 76	76-147	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U				
SA 76	76-147	Groundwater	VOA	Xylenes	ug/l													3U				
SA 76	76-148	Groundwater	DIN	Lead	ug/l									0.3U				0.1U				
SA 76	76-148	Groundwater	TIN	Lead	ug/l									2U				0.15U				
SA 76	MW-146-3	Groundwater	TPH	Benzene	ug/l								0.4U									
SA 76	MW-146-3	Groundwater	TPH	Ethylbenzene	ug/l								19.3									
SA 76	MW-146-3	Groundwater	TPH	Toluene	ug/l								5.34									
SA 76	MW-146-3	Groundwater	TPH	DRO	ug/l								15900									
SA 76	MW-146-3	Groundwater	TPH	GRO	ug/l								350UJ									
SA 76	MW-146-3	Groundwater	TPH	Xylenes	ug/l								72.1									
SA 78	12-145	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												77J					
SA 78	12-145	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												260					
SA 78	12-145	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												1900					
SA 78	12-145	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												2600					
SA 78	12-145	Groundwater	TPH	DRO	ug/l												850					4580J
SA 78	12-145	Groundwater	TPH	GRO	ug/l												4500					1880
SA 78	12-145	Groundwater	VOA	Benzene	ug/l												160					2.4J
SA 78	12-145	Groundwater	VOA	Ethylbenzene	ug/l												340					142J
SA 78	12-145	Groundwater	VOA	Toluene	ug/l												200					39.1J
SA 78	12-145	Groundwater	VOA	Xylenes	ug/l												850					298J
SA 78	12-152	Groundwater	TPH	GRO	ug/l																	37J
SA 78	12-152	Groundwater	VOA	Benzene	ug/l																	0.5U
SA 78	12-152	Groundwater	VOA	Ethylbenzene	ug/l																	0.5U
SA 78	12-152	Groundwater	VOA	Toluene	ug/l																	0.5U
SA 78	12-152	Groundwater	VOA	Xylenes	ug/l																	1U
SA 78	12-801	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	75U		86UJ												
SA 78	12-801	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	75UJ		86UJ												
SA 78	12-801	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	57UJ														
SA 78	12-801	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	75U														
SA 78	12-801	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
SA 78	12-801	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SA 78	12-801	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
SA 78	12-801	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
SA 78	12-801	Groundwater	TPH	DRO	ug/l		160U	150U		170UJ								300		71J	250U	238U
SA 78	12-801	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U			90U					9.1J		11U	80U	80U
SA 78	12-801	Groundwater	TPH	RRO	ug/l													240J				
SA 78	12-801	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U			0.5U					1U		2U	0.5U	0.5U
SA 78	12-801	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SA 78	12-801	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U			2U					1U		2U	0.5U	0.5U
SA 78	12-801	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U			2U							2U		
SA 78	12-801	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SA 78	12-801	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U			2U							2U		
SA 78	12-801	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U			2U					1U		2U	0.5U	0.5U
SA 78	12-801	Groundwater	VOA	Xylenes	ug/l													3U			1U	1U
SA 78	12-801	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SA 78	12-802	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	76UJ		79UJ												
SA 78	12-802	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	76UJ		79UJ												
SA 78	12-802	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	57UJ														
SA 78	12-802	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	76UJ														
SA 78	12-802	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
SA 78	12-802	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SA 78	12-802	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
SA 78	12-802	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SA 78	12-802	Groundwater	TPH	Methane	ug/l																	1.2U
SA 78	12-802	Groundwater	TPH	DRO	ug/l		160U	150UJ		160UJ								160U		43J	250U	240U
SA 78	12-802	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U			90U					6.8J		8.3U	18.9UJ	80U
SA 78	12-802	Groundwater	TPH	RRO	ug/l													190J				
SA 78	12-802	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U			0.5U					1U		2U	0.5U	0.5U
SA 78	12-802	Groundwater	VOA	BTEX (total)	ug/l	0.4U	0.2															
SA 78	12-802	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U			2U					1U		2U	0.5U	0.5U
SA 78	12-802	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U			2U							2U		
SA 78	12-802	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SA 78	12-802	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U			2U							2U		
SA 78	12-802	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U			2U					1U		2U	0.5U	0.5U
SA 78	12-802	Groundwater	VOA	Xylenes	ug/l													3U			1U	1U
SA 78	12-802	Groundwater	VOA	Xylenes (total)	ug/l	0.4U	0.2															
SA 78	MW-116	Groundwater	TPH	DRO	ug/l												77J					238U
SA 78	MW-116	Groundwater	TPH	GRO	ug/l												12J					24.8J
SA 78	MW-116	Groundwater	VOA	Benzene	ug/l												1U					0.5U
SA 78	MW-116	Groundwater	VOA	Ethylbenzene	ug/l												1U					0.5U
SA 78	MW-116	Groundwater	VOA	Toluene	ug/l												1U					0.5U
SA 78	MW-116	Groundwater	VOA	Xylenes	ug/l												3U					1U
SA 79	02-230	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	100	75U		80U												
SA 79	02-230	Groundwater	TPH	C10-C24 Aromatics	ug/l	240J	260	86J		210J												
SA 79	02-230	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	65U	57U														
SA 79	02-230	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	86U	75U														
SA 79	02-230	Groundwater	TPH	C6-C9 Aliphatics	ug/l	29	31	20U		33												
SA 79	02-230	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	21		20U												
SA 79	02-230	Groundwater	TPH	DRO	ug/l		360	150U		270J			4230					3500		3900	5760	4060J
SA 79	02-230	Groundwater	TPH	GRO	ug/l	40	42	37		45			90U					42J		67		
SA 79	02-230	Groundwater	TPH	RRO	ug/l								1180U					1400			489J	
SA 79	02-230	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.55J		0.2J			0.5U					0.32J		2U		
SA 79	02-230	Groundwater	VOA	BTEX (total)	ug/l	1.23																
SA 79	02-230	Groundwater	VOA	Ethylbenzene	ug/l	0.35	0.57	0.54		0.57J			2U					0.86J		0.48J		
SA 79	02-230	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.47	0.68		0.49J			2U							2U		
SA 79	02-230	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SA 79	02-230	Groundwater	VOA	o-Xylene	ug/l	0.88	0.76	2.1		1			2U							2U		
SA 79	02-230	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U			2U					1U		2U		
SA 79	02-230	Groundwater	VOA	Xylenes	ug/l													1.6J				
SA 79	02-230	Groundwater	VOA	Xylenes (total)	ug/l	0.88																
SA 79	MRP-MW1	Groundwater	TPH	Benzene	ug/l								0.435J									
SA 79	MRP-MW1	Groundwater	TPH	Ethylbenzene	ug/l								25.6J									
SA 79	MRP-MW1	Groundwater	TPH	Toluene	ug/l								2.02J									
SA 79	MRP-MW1	Groundwater	TPH	DRO	ug/l								9790									
SA 79	MRP-MW1	Groundwater	TPH	GRO	ug/l								359J									
SA 79	MRP-MW1	Groundwater	TPH	Xylenes	ug/l								93.3J									
SA 79	MRP-MW1	Groundwater	VOA	Benzene	ug/l								0.139U									
SA 79	MRP-MW15	Groundwater	DIN	Lead	ug/l															0.169J	1U	
SA 79	MRP-MW15	Groundwater	TIN	Lead	ug/l															0.205	1U	
SA 79	MRP-MW2	Groundwater	TPH	Benzene	ug/l								133									
SA 79	MRP-MW2	Groundwater	TPH	Ethylbenzene	ug/l								440									
SA 79	MRP-MW2	Groundwater	TPH	Toluene	ug/l								25U									
SA 79	MRP-MW2	Groundwater	TPH	DRO	ug/l								2590UJ									
SA 79	MRP-MW2	Groundwater	TPH	GRO	ug/l								18200									
SA 79	MRP-MW2	Groundwater	TPH	Xylenes	ug/l								3040									
SA 79	MRP-MW2	Groundwater	VOA	Benzene	ug/l								137									
SA 79	MRP-MW3	Groundwater	TPH	Benzene	ug/l								40U									
SA 79	MRP-MW3	Groundwater	TPH	Ethylbenzene	ug/l								1860									
SA 79	MRP-MW3	Groundwater	TPH	Toluene	ug/l								5690									
SA 79	MRP-MW3	Groundwater	TPH	DRO	ug/l								6930UJ									
SA 79	MRP-MW3	Groundwater	TPH	GRO	ug/l								44100									
SA 79	MRP-MW3	Groundwater	TPH	Xylenes	ug/l								10100									
SA 79	MRP-MW8	Groundwater	TPH	C10-C24 Aliphatics	ug/l	215	790	78U			230J											
SA 79	MRP-MW8	Groundwater	TPH	C10-C24 Aromatics	ug/l	178J	380	320J			120J											
SA 79	MRP-MW8	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	100	58UJ														
SA 79	MRP-MW8	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	78UJ														
SA 79	MRP-MW8	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20	31	55			41J											
SA 79	MRP-MW8	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SA 79	MRP-MW8	Groundwater	TPH	DRO	ug/l		1200	320J			350J		2790					2700		3600	3890	3700J
SA 79	MRP-MW8	Groundwater	TPH	GRO	ug/l	24	37	60			46J		90U					31J		38U		
SA 79	MRP-MW8	Groundwater	TPH	RRO	ug/l								1140U					880			500U	
SA 79	MRP-MW8	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.21J			0.2U		0.5U					1U		2U		
SA 79	MRP-MW8	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SA 79	MRP-MW8	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.22J	0.2U			0.2U		2U					0.38J		1.7J		
SA 79	MRP-MW8	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U			0.4U		2U							0.37J		
SA 79	MRP-MW8	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SA 79	MRP-MW8	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2UJ		2U							2U		
SA 79	MRP-MW8	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U		2U					1U		2U		
SA 79	MRP-MW8	Groundwater	VOA	Xylenes	ug/l													3U				
SA 79	MRP-MW8	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SA 79	MRP-MW9	Groundwater	TPH	DRO	ug/l												76J					
SA 79	MRP-MW9	Groundwater	TPH	GRO	ug/l												31J					
SA 79	MRP-MW9	Groundwater	VOA	Benzene	ug/l												0.77J					
SA 79	MRP-MW9	Groundwater	VOA	Ethylbenzene	ug/l												1U					
SA 79	MRP-MW9	Groundwater	VOA	Toluene	ug/l												1U					
SA 79	MRP-MW9	Groundwater	VOA	Xylenes	ug/l												3U					
SA 80	04-103	Groundwater	TPH	DRO	ug/l															96J	476	250U
SA 80	04-158	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												710					
SA 80	04-158	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												840					
SA 80	04-158	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												36U					
SA 80	04-158	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												460					
SA 80	04-158	Groundwater	TPH	DRO	ug/l												9800					7310J
SA 80	04-158	Groundwater	TPH	GRO	ug/l												360					
SA 80	04-158	Groundwater	VOA	Benzene	ug/l												0.42J					

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SA 80	04-158	Groundwater	VOA	Ethylbenzene	ug/l												11					
SA 80	04-158	Groundwater	VOA	Toluene	ug/l												1U					
SA 80	04-158	Groundwater	VOA	Xylenes	ug/l												30					
SA 80	04-159	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												53J					
SA 80	04-159	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												400					
SA 80	04-159	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												69					
SA 80	04-159	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												690					
SA 80	04-159	Groundwater	TPH	DRO	ug/l												3300					1410J
SA 80	04-159	Groundwater	TPH	GRO	ug/l												750					
SA 80	04-159	Groundwater	VOA	Benzene	ug/l												1.1					
SA 80	04-159	Groundwater	VOA	Ethylbenzene	ug/l												30					
SA 80	04-159	Groundwater	VOA	Toluene	ug/l												1.1					
SA 80	04-159	Groundwater	VOA	Xylenes	ug/l												150					
SA 80	04-164	Groundwater	TPH	DRO	ug/l												6100					
SA 80	04-164	Groundwater	TPH	GRO	ug/l												1000					
SA 80	04-164	Groundwater	VOA	Benzene	ug/l												2					
SA 80	04-164	Groundwater	VOA	Ethylbenzene	ug/l												49					
SA 80	04-164	Groundwater	VOA	Toluene	ug/l												1.2					
SA 80	04-164	Groundwater	VOA	Xylenes	ug/l												170					
SA 80	04-173	Groundwater	TPH	DRO	ug/l																2560	Product
SA 80	04-173	Groundwater	TPH	GRO	ug/l																114	
SA 80	04-173	Groundwater	VOA	Benzene	ug/l																0.5U	
SA 80	04-173	Groundwater	VOA	Ethylbenzene	ug/l																3.25	
SA 80	04-173	Groundwater	VOA	Toluene	ug/l																0.5U	
SA 80	04-173	Groundwater	VOA	Xylenes	ug/l																2.92	
SA 80	04-801	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	78U		80U												
SA 80	04-801	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	78U		80UJ												
SA 80	04-801	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	58U														
SA 80	04-801	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	78U														
SA 80	04-801	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
SA 80	04-801	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SA 80	04-801	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SA 80	04-801	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SA 80	04-801	Groundwater	TPH	DRO	ug/l		160U	160U		160UJ				575U				160U				250U
SA 80	04-801	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U				90U				13J				
SA 80	04-801	Groundwater	TPH	RRO	ug/l									1150U				110J				
SA 80	04-801	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U				0.5U				1U				
SA 80	04-801	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SA 80	04-801	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U				2U				1U				
SA 80	04-801	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U				2U								
SA 80	04-801	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U				2U								
SA 80	04-801	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U				2U				1U				
SA 80	04-801	Groundwater	VOA	Xylenes	ug/l													3U				
SA 80	04-801	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SA 80	SP4-2	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												1200					
SA 80	SP4-2	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												1100					
SA 80	SP4-2	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												36U					
SA 80	SP4-2	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												710					
SA 80	SP4-2	Groundwater	TPH	DRO	ug/l												9600					
SA 80	SP4-2	Groundwater	TPH	GRO	ug/l												630					
SA 80	SP4-2	Groundwater	VOA	Benzene	ug/l												0.38J					
SA 80	SP4-2	Groundwater	VOA	Ethylbenzene	ug/l												32					
SA 80	SP4-2	Groundwater	VOA	Toluene	ug/l												1U					
SA 80	SP4-2	Groundwater	VOA	Xylenes	ug/l												73					
SA 80	SP4-3	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												49J					
SA 80	SP4-3	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												730					
SA 80	SP4-3	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												36U					
SA 80	SP4-3	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												740					
SA 80	SP4-3	Groundwater	TPH	DRO	ug/l												4100			3400	5130	1670
SA 80	SP4-3	Groundwater	TPH	GRO	ug/l												730					
SA 80	SP4-3	Groundwater	VOA	Benzene	ug/l												2.3					
SA 80	SP4-3	Groundwater	VOA	Ethylbenzene	ug/l												39					
SA 80	SP4-3	Groundwater	VOA	Toluene	ug/l												1U					
SA 80	SP4-3	Groundwater	VOA	Xylenes	ug/l												150					
SA 82	12-170	Groundwater	TPH	DRO	ug/l												300					1500J
SA 82	12-172	Groundwater	TPH	DRO	ug/l												170U					238U
SA 82	12-173	Groundwater	TPH	DRO	ug/l												170U					
SA 82	12-180	Groundwater	TPH	DRO	ug/l												110J					276J
SA 82	12-194	Groundwater	TPH	DRO	ug/l												160U					
SA 82	12-401	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	78UJ		80U												
SA 82	12-401	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	78UJ		80UJ												
SA 82	12-401	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	58UJ														
SA 82	12-401	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	78UJ														
SA 82	12-401	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
SA 82	12-401	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SA 82	12-401	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
SA 82	12-401	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
SA 82	12-401	Groundwater	TPH	DRO	ug/l		160U	160UJ		160UJ								160U		100U	250U	238U
SA 82	12-401	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U			90U					6J				
SA 82	12-401	Groundwater	TPH	RRO	ug/l													150J				
SA 82	12-401	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U			0.5U					1U				
SA 82	12-401	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SA 82	12-401	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U			2U					1U				
SA 82	12-401	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U			2U									
SA 82	12-401	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U			2U									
SA 82	12-401	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U			2U					1U				
SA 82	12-401	Groundwater	VOA	Xylenes	ug/l													3U				
SA 82	12-401	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SA 88	12-162	Groundwater	TPH	DRO	ug/l																3810	Product
SA 88	12-162	Groundwater	TPH	GRO	ug/l																30.8J	
SA 88	12-162	Groundwater	VOA	Benzene	ug/l																0.5U	

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SA 88	12-162	Groundwater	VOA	Ethylbenzene	ug/l																0.41J	
SA 88	12-162	Groundwater	VOA	Toluene	ug/l																0.5U	
SA 88	12-162	Groundwater	VOA	Xylenes	ug/l																1U	
SA 88	12-163	Groundwater	TPH	DRO	ug/l																524000J	Product
SA 88	12-163	Groundwater	TPH	GRO	ug/l																86.5	
SA 88	12-163	Groundwater	VOA	Benzene	ug/l																0.34J	
SA 88	12-163	Groundwater	VOA	Ethylbenzene	ug/l																5.87	
SA 88	12-163	Groundwater	VOA	Toluene	ug/l																0.5U	
SA 88	12-163	Groundwater	VOA	Xylenes	ug/l																0.78J	
SA 88	12-197	Groundwater	TPH	DRO	ug/l												210					Product
SA 88	12-198	Groundwater	TPH	DRO	ug/l																7200	Product
SA 88	12-198	Groundwater	TPH	GRO	ug/l																192	
SA 88	12-198	Groundwater	VOA	Benzene	ug/l																0.5U	
SA 88	12-198	Groundwater	VOA	Ethylbenzene	ug/l																11.2	
SA 88	12-198	Groundwater	VOA	Toluene	ug/l																0.5U	
SA 88	12-198	Groundwater	VOA	Xylenes	ug/l																13.1	
SA 88	12-252	Groundwater	TPH	DRO	ug/l																749	
SA 88	12-252	Groundwater	TPH	GRO	ug/l																22.2J	
SA 88	12-252	Groundwater	VOA	Benzene	ug/l																0.5U	
SA 88	12-252	Groundwater	VOA	Ethylbenzene	ug/l																0.5U	
SA 88	12-252	Groundwater	VOA	Toluene	ug/l																0.5U	
SA 88	12-252	Groundwater	VOA	Xylenes	ug/l																1U	
SA 88	12-701	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	77U	78U		78U												
SA 88	12-701	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	77U	78UJ		86J												
SA 88	12-701	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	59UJ														
SA 88	12-701	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	77U	78U														
SA 88	12-701	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U		20U												
SA 88	12-701	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SA 88	12-701	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
SA 88	12-701	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
SA 88	12-701	Groundwater	TPH	DRO	ug/l		150U	160U		160UJ								160U		73J	250U	238U
SA 88	12-701	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U			90U					8.4J				
SA 88	12-701	Groundwater	TPH	RRO	ug/l													120J				
SA 88	12-701	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U			0.5U					1U				
SA 88	12-701	Groundwater	VOA	BTEX (total)	ug/l	0.2																
SA 88	12-701	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U			2U					1U				
SA 88	12-701	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U			2U									
SA 88	12-701	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U			2U									
SA 88	12-701	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U			2U					1U				
SA 88	12-701	Groundwater	VOA	Xylenes	ug/l													3U				
SA 88	12-701	Groundwater	VOA	Xylenes (total)	ug/l	0.2																
SA 88	12-702	Groundwater	TPH	DRO	ug/l												180					
SA-78	MW-117	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												29J					
SA-78	MW-117	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												360					
SA-78	MW-117	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												1100					
SA-78	MW-117	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												2400					
SA-78	MW-117	Groundwater	TPH	DRO	ug/l												1200					1130J
SA-78	MW-117	Groundwater	TPH	GRO	ug/l												3500					1220
SA-78	MW-117	Groundwater	VOA	Benzene	ug/l												29					5.45
SA-78	MW-117	Groundwater	VOA	Ethylbenzene	ug/l												270					111
SA-78	MW-117	Groundwater	VOA	Toluene	ug/l												16					4.56
SA-78	MW-117	Groundwater	VOA	Xylenes	ug/l												580					95.4
S-RNWAY 18-36	02-231	Groundwater	SVOA	Acenaphthene	ug/l									2.47								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Acenaphthylene	ug/l									1U								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Anthracene	ug/l									1U								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Benzo(a)anthracene	ug/l									1U								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Benzo(a)pyrene	ug/l									1UJ								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									1UJ								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									1UJ								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									1UJ								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Chrysene	ug/l									1U								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									1UJ								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Fluoranthene	ug/l									1U								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Fluorene	ug/l									8.55								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									1U								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Naphthalene	ug/l									132								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Phenanthrene	ug/l									5.51								
S-RNWAY 18-36	02-231	Groundwater	SVOA	Pyrene	ug/l									1U								
S-RNWAY 18-36	02-231	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	81			81UJ												
S-RNWAY 18-36	02-231	Groundwater	TPH	C10-C24 Aromatics	ug/l	1340	1100			1200J												
S-RNWAY 18-36	02-231	Groundwater	TPH	C10-C25 Aliphatics	ug/l													70J				
S-RNWAY 18-36	02-231	Groundwater	TPH	C10-C25 Aromatics	ug/l													560				
S-RNWAY 18-36	02-231	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U															
S-RNWAY 18-36	02-231	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	77U															
S-RNWAY 18-36	02-231	Groundwater	TPH	C6-C9 Aliphatics	ug/l	1500	1300			2000												
S-RNWAY 18-36	02-231	Groundwater	TPH	C6-C9 Aromatics	ug/l	940	920			790												
S-RNWAY 18-36	02-231	Groundwater	TPH	DRO	ug/l		1200			1200J				23800				14000		8600	9970	17800
S-RNWAY 18-36	02-231	Groundwater	TPH	GRO	ug/l	2400	2200			2800				1690J				910		2100	2200	1450J
S-RNWAY 18-36	02-231	Groundwater	TPH	RRO	ug/l													880				
S-RNWAY 18-36	02-231	Groundwater	VOA	Benzene	ug/l	35NJ	24J			39				33.4				33		110	67.4	42J
S-RNWAY 18-36	02-231	Groundwater	VOA	BTEX (total)	ug/l	360																
S-RNWAY 18-36	02-231	Groundwater	VOA	Ethylbenzene	ug/l	63	60			52				47.3				34		64	49.2	55.1J
S-RNWAY 18-36	02-231	Groundwater	VOA	m,p-Xylene	ug/l	250	210			220										170		
S-RNWAY 18-36	02-231	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
S-RNWAY 18-36	02-231	Groundwater	VOA	o-Xylene	ug/l	12	12			2UJ										5.9		
S-RNWAY 18-36	02-231	Groundwater	VOA	Toluene	ug/l	6U	6U			4.3				4.37				3.2		4.2	1.99	2.65J
S-RNWAY 18-36	02-231	Groundwater	VOA	Xylenes	ug/l									157				150			103	221J
S-RNWAY 18-36	02-231	Groundwater	VOA	Xylenes (total)	ug/l	262																
S-RNWAY 18-36	02-232	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	75U	78U		80UJ												
S-RNWAY 18-36	02-232	Groundwater	TPH	C10-C24 Aromatics	ug/l	147	110	78UJ		80UJ												
S-RNWAY 18-36	02-232	Groundwater	TPH	C10-C25 Aliphatics	ug/l													230				

Summary of Historical Analytical Results 1999 through 2005
Groundwater
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
S-RNWAY 18-36	02-232	Groundwater	TPH	C10-C25 Aromatics	ug/l													150				
S-RNWAY 18-36	02-232	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	56U	58U														
S-RNWAY 18-36	02-232	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	75U	78U														
S-RNWAY 18-36	02-232	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	22		32J												
S-RNWAY 18-36	02-232	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
S-RNWAY 18-36	02-232	Groundwater	TPH	DRO	ug/l		150	160U		160UJ				1780				2800		1100	1870	2320J
S-RNWAY 18-36	02-232	Groundwater	TPH	GRO	ug/l	26	28	24		38J				50U								
S-RNWAY 18-36	02-232	Groundwater	TPH	RRO	ug/l													430				
S-RNWAY 18-36	02-232	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U				0.2U								
S-RNWAY 18-36	02-232	Groundwater	VOA	BTEX (total)	ug/l	0.6																
S-RNWAY 18-36	02-232	Groundwater	VOA	Ethylbenzene	ug/l	0.6	0.51	0.2U		0.46J				0.5U								
S-RNWAY 18-36	02-232	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.95	0.4U		0.44												
S-RNWAY 18-36	02-232	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2UJ												
S-RNWAY 18-36	02-232	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U				0.5U								
S-RNWAY 18-36	02-232	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	02-232	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
S-RNWAY 18-36	02-301	Groundwater	TPH	DRO	ug/l							1490		1240								
S-RNWAY 18-36	02-301	Groundwater	TPH	GRO	ug/l							3790J		3800J								
S-RNWAY 18-36	02-301	Groundwater	TPH	RRO	ug/l							750U										
S-RNWAY 18-36	02-301	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										6.15							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										14.9							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	2-Butanone	ug/l										50U							
S-RNWAY 18-36	02-301	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										10U							
S-RNWAY 18-36	02-301	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	2-Hexanone	ug/l										10U							
S-RNWAY 18-36	02-301	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	4-Isopropyltoluene	ug/l										9.06							
S-RNWAY 18-36	02-301	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Benzene	ug/l										0.5U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Bromobenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Bromochloromethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Bromoform	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Bromomethane	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Carbon disulfide	ug/l										10U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Chlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Chloroethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Chloroform	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Chloromethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Dibromochloromethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Dibromomethane	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Ethylbenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Isopropylbenzene	ug/l										1.61							
S-RNWAY 18-36	02-301	Groundwater	VOA	m,p-Xylene	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Methylene chloride	ug/l										5U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Naphthalene	ug/l										2U							
S-RNWAY 18-36	02-301	Groundwater	VOA	n-Butylbenzene	ug/l										2.59							
S-RNWAY 18-36	02-301	Groundwater	VOA	n-Propylbenzene	ug/l										4.57							
S-RNWAY 18-36	02-301	Groundwater	VOA	o-Xylene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	sec-Butylbenzene	ug/l										4.07							
S-RNWAY 18-36	02-301	Groundwater	VOA	Styrene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Tetrachloroethene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Toluene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Trichloroethene	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
S-RNWAY 18-36	02-301	Groundwater	VOA	Vinyl chloride	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										2.33							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										3.01							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	2-Butanone	ug/l										50U							
S-RNWAY 18-36	02-302	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										10U							
S-RNWAY 18-36	02-302	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	2-Hexanone	ug/l										10U							
S-RNWAY 18-36	02-302	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	4-Isopropyltoluene	ug/l										3.93							
S-RNWAY 18-36	02-302	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Benzene	ug/l										0.5U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Bromobenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Bromochloromethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Bromoform	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Bromomethane	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Carbon disulfide	ug/l										10U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Chlorobenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Chloroethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Chloroform	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Chloromethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Dibromochloromethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Dibromomethane	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Ethylbenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Isopropylbenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	m,p-Xylene	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Methylene chloride	ug/l										5U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Naphthalene	ug/l										2U							
S-RNWAY 18-36	02-302	Groundwater	VOA	n-Butylbenzene	ug/l										1.47							
S-RNWAY 18-36	02-302	Groundwater	VOA	n-Propylbenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	o-Xylene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	sec-Butylbenzene	ug/l										1.65							
S-RNWAY 18-36	02-302	Groundwater	VOA	Styrene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Tetrachloroethene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Toluene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Trichloroethene	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
S-RNWAY 18-36	02-302	Groundwater	VOA	Vinyl chloride	ug/l										2U							
S-RNWAY 18-36	02-451	Groundwater	TPH	DRO	ug/l									100U								
S-RNWAY 18-36	02-451	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	02-451	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	02-451	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	02-451	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	02-451	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	02-452	Groundwater	SVOA	Acenaphthene	ug/l							3.31J										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Acenaphthylene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Anthracene	ug/l							0.654J										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Benzo(a)anthracene	ug/l							0.442J										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Benzo(a)pyrene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Chrysene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Fluoranthene	ug/l							1.74J										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Fluorene	ug/l							4.36J										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l							1U										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Naphthalene	ug/l							361J										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Phenanthrene	ug/l							4.58J										
S-RNWAY 18-36	02-452	Groundwater	SVOA	Pyrene	ug/l							1.1J										
S-RNWAY 18-36	02-452	Groundwater	TPH	DRO	ug/l							18800		8480								
S-RNWAY 18-36	02-452	Groundwater	TPH	GRO	ug/l							10400		9200J								
S-RNWAY 18-36	02-452	Groundwater	TPH	RRO	ug/l							750U										
S-RNWAY 18-36	02-452	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,1,1-Trichloroethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l							1U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,1,2-Trichloroethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,1-Dichloroethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,1-Dichloroethene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,1-Dichloropropene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2,3-Trichloropropane	ug/l							1U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l							1U			10U							

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l							494J			752							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l							5U			12.5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2-Dibromoethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2-Dichlorobenzene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2-Dichloroethane	ug/l							1U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,2-Dichloropropane	ug/l							1U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l							218J			241							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,3-Dichlorobenzene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,3-Dichloropropane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	1,4-Dichlorobenzene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	2,2-Dichloropropane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	2-Butanone	ug/l							25.4U			250U							
S-RNWAY 18-36	02-452	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										50U							
S-RNWAY 18-36	02-452	Groundwater	VOA	2-Chlorotoluene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	2-Hexanone	ug/l							10U			50U							
S-RNWAY 18-36	02-452	Groundwater	VOA	4-Chlorotoluene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	4-Isopropyltoluene	ug/l							39.8J			21.6							
S-RNWAY 18-36	02-452	Groundwater	VOA	4-Methyl-2-pentanone	ug/l							10U			50U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Acetone	ug/l							25U										
S-RNWAY 18-36	02-452	Groundwater	VOA	Benzene	ug/l							1U			2.5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Bromobenzene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Bromochloromethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Bromodichloromethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Bromoform	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Bromomethane	ug/l							2U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Carbon disulfide	ug/l							1U			50U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Carbon tetrachloride	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Chlorobenzene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Chloroethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Chloroform	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Chloromethane	ug/l							5U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Dibromochloromethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Dibromomethane	ug/l							1U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Ethylbenzene	ug/l							287		257J	246							
S-RNWAY 18-36	02-452	Groundwater	VOA	Hexachlorobutadiene	ug/l							1U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Isopropylbenzene	ug/l							58.5J			69.1							
S-RNWAY 18-36	02-452	Groundwater	VOA	m,p-Xylene	ug/l							861J			883							
S-RNWAY 18-36	02-452	Groundwater	VOA	Methylene chloride	ug/l							5U			25U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Naphthalene	ug/l							213J			238							
S-RNWAY 18-36	02-452	Groundwater	VOA	n-Butylbenzene	ug/l							1U			6.25							
S-RNWAY 18-36	02-452	Groundwater	VOA	n-Propylbenzene	ug/l							61.7J			78.9							
S-RNWAY 18-36	02-452	Groundwater	VOA	o-Xylene	ug/l							392J			699							
S-RNWAY 18-36	02-452	Groundwater	VOA	sec-Butylbenzene	ug/l							11.7			10.4							
S-RNWAY 18-36	02-452	Groundwater	VOA	Styrene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	tert-Butylbenzene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Tetrachloroethene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Toluene	ug/l							43.9		50.7J	47.8							
S-RNWAY 18-36	02-452	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Trichloroethene	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Trichlorofluoromethane	ug/l							1U			5U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Vinyl chloride	ug/l							1U			10U							
S-RNWAY 18-36	02-452	Groundwater	VOA	Xylenes	ug/l							1610		1800								
S-RNWAY 18-36	02-453	Groundwater	TPH	Benzene	ug/l							20.5J										
S-RNWAY 18-36	02-453	Groundwater	TPH	Ethylbenzene	ug/l							62.9										
S-RNWAY 18-36	02-453	Groundwater	TPH	Toluene	ug/l							16.5J										
S-RNWAY 18-36	02-453	Groundwater	TPH	DRO	ug/l							27000		24300								
S-RNWAY 18-36	02-453	Groundwater	TPH	GRO	ug/l							7540J		8700								
S-RNWAY 18-36	02-453	Groundwater	TPH	RRO	ug/l							8250U										
S-RNWAY 18-36	02-453	Groundwater	TPH	Xylenes	ug/l							621										
S-RNWAY 18-36	02-453	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,1-Dichloroethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,1-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,1-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										401							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										25U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2-Dibromoethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2-Dichloroethane	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,2-Dichloropropane	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										139							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,3-Dichloropropane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	2,2-Dichloropropane	ug/l										10UJ							
S-RNWAY 18-36	02-453	Groundwater	VOA	2-Butanone	ug/l										500U							
S-RNWAY 18-36	02-453	Groundwater	VOA	2-Chlorotoluene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	2-Hexanone	ug/l										100U							
S-RNWAY 18-36	02-453	Groundwater	VOA	4-Chlorotoluene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	4-Isopropyltoluene	ug/l										15.2							
S-RNWAY 18-36	02-453	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										100U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Benzene	ug/l									14.7J	10.5							

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
S-RNWAY 18-36	02-453	Groundwater	VOA	Bromobenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Bromochloromethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Bromodichloromethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Bromoform	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Bromomethane	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Carbon disulfide	ug/l										100U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Carbon tetrachloride	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Chlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Chloroethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Chloroform	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Chloromethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Dibromochloromethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Dibromomethane	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Dichlorodifluoromethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Ethylbenzene	ug/l									90.2	51							
S-RNWAY 18-36	02-453	Groundwater	VOA	Hexachlorobutadiene	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Isopropylbenzene	ug/l										20.1							
S-RNWAY 18-36	02-453	Groundwater	VOA	m,p-Xylene	ug/l										513							
S-RNWAY 18-36	02-453	Groundwater	VOA	Methylene chloride	ug/l										50U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Naphthalene	ug/l										254							
S-RNWAY 18-36	02-453	Groundwater	VOA	n-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	n-Propylbenzene	ug/l										22.8							
S-RNWAY 18-36	02-453	Groundwater	VOA	o-Xylene	ug/l										21.2							
S-RNWAY 18-36	02-453	Groundwater	VOA	sec-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Styrene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	tert-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Tetrachloroethene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Toluene	ug/l									20.7	10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Trichloroethene	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Trichlorofluoromethane	ug/l										10U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Vinyl chloride	ug/l										20U							
S-RNWAY 18-36	02-453	Groundwater	VOA	Xylenes	ug/l									895								
S-RNWAY 18-36	02-455	Groundwater	TPH	Benzene	ug/l							1.77J										
S-RNWAY 18-36	02-455	Groundwater	TPH	Ethylbenzene	ug/l							12.2J										
S-RNWAY 18-36	02-455	Groundwater	TPH	Toluene	ug/l							1.25UJ										
S-RNWAY 18-36	02-455	Groundwater	TPH	DRO	ug/l							28300		6470								
S-RNWAY 18-36	02-455	Groundwater	TPH	GRO	ug/l							943J		558J								
S-RNWAY 18-36	02-455	Groundwater	TPH	RRO	ug/l							8250U										
S-RNWAY 18-36	02-455	Groundwater	TPH	Xylenes	ug/l							14.8J										
S-RNWAY 18-36	02-455	Groundwater	VOA	Benzene	ug/l									3.76								
S-RNWAY 18-36	02-455	Groundwater	VOA	Ethylbenzene	ug/l									28.9								
S-RNWAY 18-36	02-455	Groundwater	VOA	Toluene	ug/l									0.92J								
S-RNWAY 18-36	02-455	Groundwater	VOA	Xylenes	ug/l									24.3								
S-RNWAY 18-36	02-461	Groundwater	TPH	Benzene	ug/l							13.9J										
S-RNWAY 18-36	02-461	Groundwater	TPH	Ethylbenzene	ug/l							226										
S-RNWAY 18-36	02-461	Groundwater	TPH	Toluene	ug/l							121										
S-RNWAY 18-36	02-461	Groundwater	TPH	DRO	ug/l							5280		4110								
S-RNWAY 18-36	02-461	Groundwater	TPH	GRO	ug/l							12700J		10500J								
S-RNWAY 18-36	02-461	Groundwater	TPH	RRO	ug/l							3750U										
S-RNWAY 18-36	02-461	Groundwater	TPH	Xylenes	ug/l							1630										
S-RNWAY 18-36	02-461	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									594	442							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									5U	25U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2-Dichloroethane	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,2-Dichloropropane	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									161	146							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	2-Butanone	ug/l									10U	500U							
S-RNWAY 18-36	02-461	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										100U							
S-RNWAY 18-36	02-461	Groundwater	VOA	2-Chlorotoluene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	2-Hexanone	ug/l									10U	100U							
S-RNWAY 18-36	02-461	Groundwater	VOA	4-Chlorotoluene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	4-Isopropyltoluene	ug/l									48.9	20.5							
S-RNWAY 18-36	02-461	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U	100U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Acetone	ug/l									150								
S-RNWAY 18-36	02-461	Groundwater	VOA	Benzene	ug/l									11.3J	6.8							
S-RNWAY 18-36	02-461	Groundwater	VOA	Bromobenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Bromochloromethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Bromodichloromethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Bromoform	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Bromomethane	ug/l									2U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Carbon disulfide	ug/l									1U	100U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Carbon tetrachloride	ug/l									1U	10U							

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Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
S-RNWAY 18-36	02-461	Groundwater	VOA	Chlorobenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Chloroethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Chloroform	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Chloromethane	ug/l									5U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Dibromochloromethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Dibromomethane	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1UJ	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Ethylbenzene	ug/l									247J	330							
S-RNWAY 18-36	02-461	Groundwater	VOA	Hexachlorobutadiene	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Isopropylbenzene	ug/l									93.3	53.1							
S-RNWAY 18-36	02-461	Groundwater	VOA	m,p-Xylene	ug/l									1140	1580							
S-RNWAY 18-36	02-461	Groundwater	VOA	Methylene chloride	ug/l									5U	50U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Naphthalene	ug/l									331	353							
S-RNWAY 18-36	02-461	Groundwater	VOA	n-Butylbenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	n-Propylbenzene	ug/l									88.5	52.1							
S-RNWAY 18-36	02-461	Groundwater	VOA	o-Xylene	ug/l									270	517							
S-RNWAY 18-36	02-461	Groundwater	VOA	sec-Butylbenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Styrene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	tert-Butylbenzene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Tetrachloroethene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Toluene	ug/l									228J	261							
S-RNWAY 18-36	02-461	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Trichloroethene	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U	10U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Vinyl chloride	ug/l									1U	20U							
S-RNWAY 18-36	02-461	Groundwater	VOA	Xylenes	ug/l									1920J								
S-RNWAY 18-36	02-463	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,1-Dichloroethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,1-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,1-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										243							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										25U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2-Dibromoethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2-Dichloroethane	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,2-Dichloropropane	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										50.4							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,3-Dichloropropane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	2,2-Dichloropropane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	2-Butanone	ug/l										500U							
S-RNWAY 18-36	02-463	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										100U							
S-RNWAY 18-36	02-463	Groundwater	VOA	2-Chlorotoluene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	2-Hexanone	ug/l										100U							
S-RNWAY 18-36	02-463	Groundwater	VOA	4-Chlorotoluene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	4-Isopropyltoluene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										100U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Benzene	ug/l										15.1							
S-RNWAY 18-36	02-463	Groundwater	VOA	Bromobenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Bromochloromethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Bromodichloromethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Bromoform	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Bromomethane	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Carbon disulfide	ug/l										100U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Carbon tetrachloride	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Chlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Chloroethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Chloroform	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Chloromethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Dibromochloromethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Dibromomethane	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Dichlorodifluoromethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Ethylbenzene	ug/l										45.9							
S-RNWAY 18-36	02-463	Groundwater	VOA	Hexachlorobutadiene	ug/l										20U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Isopropylbenzene	ug/l										10.9							
S-RNWAY 18-36	02-463	Groundwater	VOA	m,p-Xylene	ug/l										306							
S-RNWAY 18-36	02-463	Groundwater	VOA	Methylene chloride	ug/l										50U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Naphthalene	ug/l										147							
S-RNWAY 18-36	02-463	Groundwater	VOA	n-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	n-Propylbenzene	ug/l										11.8							
S-RNWAY 18-36	02-463	Groundwater	VOA	o-Xylene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	sec-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Styrene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	tert-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Tetrachloroethene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Toluene	ug/l										13.1							
S-RNWAY 18-36	02-463	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Trichloroethene	ug/l										10U							

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
S-RNWAY 18-36	02-463	Groundwater	VOA	Trichlorofluoromethane	ug/l										10U							
S-RNWAY 18-36	02-463	Groundwater	VOA	Vinyl chloride	ug/l										20U							
S-RNWAY 18-36	02-473	Groundwater	TPH	DRO	ug/l									105								
S-RNWAY 18-36	02-473	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	02-473	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	02-473	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	02-473	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	02-473	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	02-475	Groundwater	TPH	Benzene	ug/l							0.2UJ										
S-RNWAY 18-36	02-475	Groundwater	TPH	Ethylbenzene	ug/l							0.5UJ										
S-RNWAY 18-36	02-475	Groundwater	TPH	Toluene	ug/l							0.772J										
S-RNWAY 18-36	02-475	Groundwater	TPH	DRO	ug/l							44500										
S-RNWAY 18-36	02-475	Groundwater	TPH	GRO	ug/l							203J										
S-RNWAY 18-36	02-475	Groundwater	TPH	RRO	ug/l							15800U										
S-RNWAY 18-36	02-475	Groundwater	TPH	Xylenes	ug/l							1.58J										
S-RNWAY 18-36	02-478	Groundwater	TPH	DRO	ug/l									8100								
S-RNWAY 18-36	02-478	Groundwater	TPH	GRO	ug/l									520J								
S-RNWAY 18-36	02-478	Groundwater	VOA	Benzene	ug/l									0.4U								
S-RNWAY 18-36	02-478	Groundwater	VOA	Ethylbenzene	ug/l									20.9								
S-RNWAY 18-36	02-478	Groundwater	VOA	Toluene	ug/l									11.6								
S-RNWAY 18-36	02-478	Groundwater	VOA	Xylenes	ug/l									80								
S-RNWAY 18-36	02-479	Groundwater	TPH	DRO	ug/l									100U								
S-RNWAY 18-36	02-479	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	02-479	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	02-479	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	02-479	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	02-479	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	02-489	Groundwater	TPH	Benzene	ug/l							96.1J										
S-RNWAY 18-36	02-489	Groundwater	TPH	Ethylbenzene	ug/l							428J										
S-RNWAY 18-36	02-489	Groundwater	TPH	Toluene	ug/l							207J										
S-RNWAY 18-36	02-489	Groundwater	TPH	DRO	ug/l							9390										
S-RNWAY 18-36	02-489	Groundwater	TPH	GRO	ug/l							17200J										
S-RNWAY 18-36	02-489	Groundwater	TPH	RRO	ug/l							750U										
S-RNWAY 18-36	02-489	Groundwater	TPH	Xylenes	ug/l							1210J										
S-RNWAY 18-36	02-489	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,1-Dichloroethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,1-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,1-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										413							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										25U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2-Dibromoethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2-Dichloroethane	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,2-Dichloropropane	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										155							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,3-Dichloropropane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	2,2-Dichloropropane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	2-Butanone	ug/l										500U							
S-RNWAY 18-36	02-489	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										100U							
S-RNWAY 18-36	02-489	Groundwater	VOA	2-Chlorotoluene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	2-Hexanone	ug/l										100U							
S-RNWAY 18-36	02-489	Groundwater	VOA	4-Chlorotoluene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	4-Isopropyltoluene	ug/l										12.8							
S-RNWAY 18-36	02-489	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										100U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Benzene	ug/l										139							
S-RNWAY 18-36	02-489	Groundwater	VOA	Bromobenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Bromochloromethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Bromodichloromethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Bromoform	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Bromomethane	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Carbon disulfide	ug/l										100U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Carbon tetrachloride	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Chlorobenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Chloroethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Chloroform	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Chloromethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										34.1							
S-RNWAY 18-36	02-489	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Dibromochloromethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Dibromomethane	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Dichlorodifluoromethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Ethylbenzene	ug/l										312							
S-RNWAY 18-36	02-489	Groundwater	VOA	Hexachlorobutadiene	ug/l										20U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Isopropylbenzene	ug/l										50.3							
S-RNWAY 18-36	02-489	Groundwater	VOA	m,p-Xylene	ug/l										873							
S-RNWAY 18-36	02-489	Groundwater	VOA	Methylene chloride	ug/l										50U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Naphthalene	ug/l										319							
S-RNWAY 18-36	02-489	Groundwater	VOA	n-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	n-Propylbenzene	ug/l										55.4							
S-RNWAY 18-36	02-489	Groundwater	VOA	o-Xylene	ug/l										130							
S-RNWAY 18-36	02-489	Groundwater	VOA	sec-Butylbenzene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Styrene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	tert-Butylbenzene	ug/l										10U							

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S-RNWAY 18-36	02-489	Groundwater	VOA	Tetrachloroethene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Toluene	ug/l										242							
S-RNWAY 18-36	02-489	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Trichloroethene	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Trichlorofluoromethane	ug/l										10U							
S-RNWAY 18-36	02-489	Groundwater	VOA	Vinyl chloride	ug/l										20U							
S-RNWAY 18-36	18/36-01	Groundwater	TPH	DRO	ug/l									2310J								
S-RNWAY 18-36	18/36-01	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	18/36-01	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	18/36-01	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	18/36-01	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	18/36-01	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	18/36-02	Groundwater	TPH	DRO	ug/l									5200								
S-RNWAY 18-36	18/36-02	Groundwater	TPH	GRO	ug/l									474J								
S-RNWAY 18-36	18/36-02	Groundwater	VOA	Benzene	ug/l									1.69								
S-RNWAY 18-36	18/36-02	Groundwater	VOA	Ethylbenzene	ug/l									52.3								
S-RNWAY 18-36	18/36-02	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	18/36-02	Groundwater	VOA	Xylenes	ug/l									56.3								
S-RNWAY 18-36	18/36-03	Groundwater	TPH	DRO	ug/l									100UJ								
S-RNWAY 18-36	18/36-03	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	18/36-03	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	18/36-03	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	18/36-03	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	18/36-03	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	18/36-04	Groundwater	TPH	DRO	ug/l									671J								
S-RNWAY 18-36	18/36-04	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	18/36-04	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	18/36-04	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	18/36-04	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	18/36-04	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	18/36-05	Groundwater	TPH	DRO	ug/l									605J								
S-RNWAY 18-36	18/36-05	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	18/36-05	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	18/36-05	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	18/36-05	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	18/36-05	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	E-206	Groundwater	TPH	DRO	ug/l								825									
S-RNWAY 18-36	E-206	Groundwater	TPH	GRO	ug/l								50U									
S-RNWAY 18-36	E-206	Groundwater	VOA	Benzene	ug/l								0.2U									
S-RNWAY 18-36	E-206	Groundwater	VOA	Ethylbenzene	ug/l								0.5U									
S-RNWAY 18-36	E-206	Groundwater	VOA	Toluene	ug/l								0.5U									
S-RNWAY 18-36	E-206	Groundwater	VOA	Xylenes	ug/l								1U									
S-RNWAY 18-36	E-208	Groundwater	TPH	C10-C24 Aliphatics	ug/l			120J			78U											
S-RNWAY 18-36	E-208	Groundwater	TPH	C10-C24 Aromatics	ug/l			140J			78U											
S-RNWAY 18-36	E-208	Groundwater	TPH	C25-C36 Aliphatics	ug/l			58UJ														
S-RNWAY 18-36	E-208	Groundwater	TPH	C25-C36 Aromatics	ug/l			78UJ														
S-RNWAY 18-36	E-208	Groundwater	TPH	C6-C9 Aliphatics	ug/l			20U			20UJ											
S-RNWAY 18-36	E-208	Groundwater	TPH	C6-C9 Aromatics	ug/l			20U			20U											
S-RNWAY 18-36	E-208	Groundwater	TPH	DRO	ug/l			270J			160U			129J				170U		100U	250U	250U
S-RNWAY 18-36	E-208	Groundwater	TPH	GRO	ug/l			20U			20UJ			50U								
S-RNWAY 18-36	E-208	Groundwater	TPH	RRO	ug/l													280U				
S-RNWAY 18-36	E-208	Groundwater	VOA	Benzene	ug/l			0.2U			0.2U			0.2U								
S-RNWAY 18-36	E-208	Groundwater	VOA	Ethylbenzene	ug/l			0.2U			0.2U			0.5U								
S-RNWAY 18-36	E-208	Groundwater	VOA	m,p-Xylene	ug/l			0.4U			0.4U											
S-RNWAY 18-36	E-208	Groundwater	VOA	o-Xylene	ug/l			0.2U			0.2UJ											
S-RNWAY 18-36	E-208	Groundwater	VOA	Toluene	ug/l			0.3U			0.3U			0.5U								
S-RNWAY 18-36	E-208	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	E-213 (AMW-213)	Groundwater	TPH	DRO	ug/l								4840									
S-RNWAY 18-36	E-213 (AMW-213)	Groundwater	TPH	GRO	ug/l								186									
S-RNWAY 18-36	E-213 (AMW-213)	Groundwater	VOA	Benzene	ug/l								0.389J									
S-RNWAY 18-36	E-213 (AMW-213)	Groundwater	VOA	Ethylbenzene	ug/l								3.56									
S-RNWAY 18-36	E-213 (AMW-213)	Groundwater	VOA	Toluene	ug/l								0.5U									
S-RNWAY 18-36	E-213 (AMW-213)	Groundwater	VOA	Xylenes	ug/l								5.59									
S-RNWAY 18-36	E-215	Groundwater	TPH	DRO	ug/l								1910									
S-RNWAY 18-36	E-215	Groundwater	TPH	GRO	ug/l								82.7									
S-RNWAY 18-36	E-215	Groundwater	VOA	Benzene	ug/l								0.516									
S-RNWAY 18-36	E-215	Groundwater	VOA	Ethylbenzene	ug/l								2.72									
S-RNWAY 18-36	E-215	Groundwater	VOA	Toluene	ug/l								0.5U									
S-RNWAY 18-36	E-215	Groundwater	VOA	Xylenes	ug/l								6.5									
S-RNWAY 18-36	E-216	Groundwater	TPH	C10-C24 Aliphatics	ug/l			93J														
S-RNWAY 18-36	E-216	Groundwater	TPH	C10-C24 Aromatics	ug/l			280J														
S-RNWAY 18-36	E-216	Groundwater	TPH	C10-C25 Aliphatics	ug/l													280				
S-RNWAY 18-36	E-216	Groundwater	TPH	C10-C25 Aromatics	ug/l													240				
S-RNWAY 18-36	E-216	Groundwater	TPH	C25-C36 Aliphatics	ug/l			58UJ														
S-RNWAY 18-36	E-216	Groundwater	TPH	C25-C36 Aromatics	ug/l			78UJ														
S-RNWAY 18-36	E-216	Groundwater	TPH	C6-C9 Aliphatics	ug/l			34														
S-RNWAY 18-36	E-216	Groundwater	TPH	C6-C9 Aromatics	ug/l			20U														
S-RNWAY 18-36	E-216	Groundwater	TPH	DRO	ug/l			370J										5000		2600	Product	16000J
S-RNWAY 18-36	E-216	Groundwater	TPH	GRO	ug/l			51														
S-RNWAY 18-36	E-216	Groundwater	TPH	RRO	ug/l													530				
S-RNWAY 18-36	E-216	Groundwater	VOA	Benzene	ug/l			0.2U														
S-RNWAY 18-36	E-216	Groundwater	VOA	Ethylbenzene	ug/l			0.9														
S-RNWAY 18-36	E-216	Groundwater	VOA	m,p-Xylene	ug/l			0.57														
S-RNWAY 18-36	E-216	Groundwater	VOA	o-Xylene	ug/l			0.73J														
S-RNWAY 18-36	E-216	Groundwater	VOA	Toluene	ug/l			0.3U														
S-RNWAY 18-36	E-217 (AMW-217)	Groundwater	TPH	DRO	ug/l								11000									
S-RNWAY 18-36	E-217 (AMW-217)	Groundwater	TPH	GRO	ug/l								766J									
S-RNWAY 18-36	E-217 (AMW-217)	Groundwater	VOA	Benzene	ug/l								30.1									
S-RNWAY 18-36	E-217 (AMW-217)	Groundwater	VOA	Ethylbenzene	ug/l								48.9									
S-RNWAY 18-36	E-217 (AMW-217)	Groundwater	VOA	Toluene	ug/l								2.02									

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S-RNWAY 18-36	E-217 (AMW-217)	Groundwater	VOA	Xylenes	ug/l								172									
S-RNWAY 18-36	E-218	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	75U	77U			78U											
S-RNWAY 18-36	E-218	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	75U	150J			78UJ											
S-RNWAY 18-36	E-218	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	56U	58UJ														
S-RNWAY 18-36	E-218	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	75U	89														
S-RNWAY 18-36	E-218	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U			25											
S-RNWAY 18-36	E-218	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
S-RNWAY 18-36	E-218	Groundwater	TPH	DRO	ug/l		150U	190			160UJ			267				170U		3100	108J	233J
S-RNWAY 18-36	E-218	Groundwater	TPH	GRO	ug/l	21	20U	20U			35			50U								
S-RNWAY 18-36	E-218	Groundwater	TPH	RRO	ug/l													280U				
S-RNWAY 18-36	E-218	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U			0.2U								
S-RNWAY 18-36	E-218	Groundwater	VOA	BTEX (total)	ug/l	0.91																
S-RNWAY 18-36	E-218	Groundwater	VOA	Ethylbenzene	ug/l	0.22	0.2U	0.2U			0.59J			0.5U								
S-RNWAY 18-36	E-218	Groundwater	VOA	m,p-Xylene	ug/l	0.69	0.4U	0.4U			1.1											
S-RNWAY 18-36	E-218	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2UJ											
S-RNWAY 18-36	E-218	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			0.5U								
S-RNWAY 18-36	E-218	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	E-218	Groundwater	VOA	Xylenes (total)	ug/l	0.69																
S-RNWAY 18-36	MRP-12	Groundwater	TPH	DRO	ug/l									169J				160U		46J	96.1J	250U
S-RNWAY 18-36	MRP-12	Groundwater	TPH	GRO	ug/l									50U								
S-RNWAY 18-36	MRP-12	Groundwater	TPH	RRO	ug/l													280U				
S-RNWAY 18-36	MRP-12	Groundwater	VOA	Benzene	ug/l									0.2U								
S-RNWAY 18-36	MRP-12	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
S-RNWAY 18-36	MRP-12	Groundwater	VOA	Toluene	ug/l									0.5U								
S-RNWAY 18-36	MRP-12	Groundwater	VOA	Xylenes	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Acenaphthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Acenaphthylene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Benzo(a)anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Benzo(a)pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Chrysene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Fluorene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Naphthalene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Phenanthrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	SVOA	Pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	Benzene	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	Chlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	Ethylbenzene	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	m,p-Xylene	ug/l									2U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	o-Xylene	ug/l									1U								
S-RNWAY 18-36	SSC-001	Groundwater	VOA	Toluene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Acenaphthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Acenaphthylene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Benzo(a)anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Benzo(a)pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Chrysene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Fluorene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Naphthalene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Phenanthrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	SVOA	Pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	Benzene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	Chlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	Ethylbenzene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	m,p-Xylene	ug/l									2U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	o-Xylene	ug/l									1U								
S-RNWAY 18-36	SSC-003	Groundwater	VOA	Toluene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Acenaphthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Acenaphthylene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Benzo(a)anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Benzo(a)pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Chrysene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Fluoranthene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Fluorene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Naphthalene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Phenanthrene	ug/l									0.1U								
S-RNWAY 18-36	SSC-004	Groundwater	SVOA	Pyrene	ug/l									0.1U								

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Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
S-RNWAY 18-36	SSC-004	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	Benzene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	Chlorobenzene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	Ethylbenzene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	m,p-Xylene	ug/l									2U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	o-Xylene	ug/l									1U								
S-RNWAY 18-36	SSC-004	Groundwater	VOA	Toluene	ug/l									1U								
SWMU 14	01-153	Groundwater	DIN	Lead	ug/l															11	45.1	7.18
SWMU 14	01-153	Groundwater	DIN	Thallium	ug/l															0.15U		
SWMU 14	01-153	Groundwater	SVOA	2-Methylnaphthalene	ug/l															1		
SWMU 14	01-153	Groundwater	SVOA	Acenaphthene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Acenaphthylene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Anthracene	ug/l															0.33U		
SWMU 14	01-153	Groundwater	SVOA	Benzo(a)anthracene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Benzo(a)pyrene	ug/l															0.07U		
SWMU 14	01-153	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l																0.5U	0.523J
SWMU 14	01-153	Groundwater	SVOA	Chrysene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Fluoranthene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Fluorene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Naphthalene	ug/l															9.1		
SWMU 14	01-153	Groundwater	SVOA	Phenanthrene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	SVOA	Pyrene	ug/l															0.056U		
SWMU 14	01-153	Groundwater	TIN	Lead	ug/l															12.3	51.3	7.82
SWMU 14	01-153	Groundwater	TIN	Thallium	ug/l															0.25U	0.12J	
SWMU 14	01-153	Groundwater	TPH	C6-C10 Aliphatics	ug/l																111J	
SWMU 14	01-153	Groundwater	TPH	C6-C10 Aromatics	ug/l																50UJ	
SWMU 14	01-153	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l															670		
SWMU 14	01-153	Groundwater	TPH	GRO - Aromatic Fraction	ug/l															1000		
SWMU 14	01-153	Groundwater	TPH	DRO	ug/l															540	800	
SWMU 14	01-153	Groundwater	TPH	GRO	ug/l															1700	181	122J
SWMU 14	01-153	Groundwater	VOA	1,1-Dichloroethene	ug/l															10U	1U	1U
SWMU 14	01-153	Groundwater	VOA	Benzene	ug/l															4U	0.5U	0.5U
SWMU 14	01-153	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l															10U	1U	1U
SWMU 14	01-153	Groundwater	VOA	Ethylbenzene	ug/l															180	0.5U	0.6
SWMU 14	01-153	Groundwater	VOA	m,p-Xylene	ug/l															430		
SWMU 14	01-153	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															4U		
SWMU 14	01-153	Groundwater	VOA	Methylene chloride	ug/l															2.3U	5U	2U
SWMU 14	01-153	Groundwater	VOA	o-Xylene	ug/l															164.12		
SWMU 14	01-153	Groundwater	VOA	Tetrachloroethene	ug/l															27	7.74	6.75
SWMU 14	01-153	Groundwater	VOA	Toluene	ug/l															280	0.5U	0.26J
SWMU 14	01-153	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l															10U	1U	1U
SWMU 14	01-153	Groundwater	VOA	Trichloroethene	ug/l															10U	1U	1U
SWMU 14	01-153	Groundwater	VOA	Vinyl chloride	ug/l															10UJ	1U	1U
SWMU 14	01-153	Groundwater	VOA	Xylenes	ug/l																1U	1.28
SWMU 14	MW14-423	Groundwater	DIN	Lead	ug/l	1U	1U	0.1UJ		1U				0.3U								
SWMU 14	MW14-423	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									210U								
SWMU 14	MW14-423	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2-Chloronaphthalene	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	2-Chlorophenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2-Methylnaphthalene	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	2-Methylphenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2-Nitroaniline	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	2-Nitrophenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	3-Nitroaniline	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									210U								
SWMU 14	MW14-423	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	4-Chloroaniline	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	4-Nitroaniline	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	4-Nitrophenol	ug/l									160U								
SWMU 14	MW14-423	Groundwater	SVOA	Acenaphthene	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	Acenaphthylene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Aniline	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Anthracene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Azobenzene	ug/l									230U								
SWMU 14	MW14-423	Groundwater	SVOA	Benzo(a)anthracene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Benzo(a)pyrene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	Benzoic acid	ug/l									57U								
SWMU 14	MW14-423	Groundwater	SVOA	Benzyl alcohol	ug/l									23U								

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SWMU 14	MW14-423	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Butylbenzylphthalate	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Chrysene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Cresols	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	Dibenzofuran	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Diethylphthalate	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Dimethylphthalate	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Di-n-butylphthalate	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Di-n-octylphthalate	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Fluoranthene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Fluorene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Hexachlorobenzene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Hexachlorobutadiene	ug/l									34U								
SWMU 14	MW14-423	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									34U								
SWMU 14	MW14-423	Groundwater	SVOA	Hexachloroethane	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Isophorone	ug/l									29U								
SWMU 14	MW14-423	Groundwater	SVOA	Naphthalene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Nitrobenzene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Pentachlorophenol	ug/l									160U								
SWMU 14	MW14-423	Groundwater	SVOA	Phenanthrene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	SVOA	Phenol	ug/l									11U								
SWMU 14	MW14-423	Groundwater	SVOA	Pyrene	ug/l									23U								
SWMU 14	MW14-423	Groundwater	TIN	Lead	ug/l	1U	1U	0.1UJ		1U				2U								
SWMU 14	MW14-423	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80UJ	77U		80U												
SWMU 14	MW14-423	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80UJ	77UJ		80UJ												
SWMU 14	MW14-423	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	58U														
SWMU 14	MW14-423	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80UJ	77U														
SWMU 14	MW14-423	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
SWMU 14	MW14-423	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SWMU 14	MW14-423	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 14	MW14-423	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 14	MW14-423	Groundwater	TPH	DRO	ug/l		160UJ	150U		160UJ				581U								
SWMU 14	MW14-423	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U				90U								
SWMU 14	MW14-423	Groundwater	TPH	RRO	ug/l									1160U								
SWMU 14	MW14-423	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U								
SWMU 14	MW14-423	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	2-Butanone	ug/l									50U								
SWMU 14	MW14-423	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U								
SWMU 14	MW14-423	Groundwater	VOA	2-Chlorotoluene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	2-Hexanone	ug/l									10U								
SWMU 14	MW14-423	Groundwater	VOA	4-Chlorotoluene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U								
SWMU 14	MW14-423	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U				0.5U								
SWMU 14	MW14-423	Groundwater	VOA	Bromobenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Bromochloromethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Bromodichloromethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Bromoform	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Bromomethane	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SWMU 14	MW14-423	Groundwater	VOA	Carbon disulfide	ug/l									10U								
SWMU 14	MW14-423	Groundwater	VOA	Carbon tetrachloride	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Chlorobenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Chloroethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Chloroform	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Chloromethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Dibromochloromethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Dibromomethane	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U				1U								
SWMU 14	MW14-423	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	Isopropylbenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U				2U								

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 14	MW14-423	Groundwater	VOA	Methylene chloride	ug/l									5U								
SWMU 14	MW14-423	Groundwater	VOA	Naphthalene	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	n-Butylbenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	n-Propylbenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U				1U								
SWMU 14	MW14-423	Groundwater	VOA	sec-Butylbenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Styrene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	tert-Butylbenzene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Tetrachloroethene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U				1U								
SWMU 14	MW14-423	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Trichloroethene	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U								
SWMU 14	MW14-423	Groundwater	VOA	Vinyl chloride	ug/l									2U								
SWMU 14	MW14-423	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SWMU 14	MW-14-5	Groundwater	DIN	Antimony	ug/l													0.202				
SWMU 14	MW-14-5	Groundwater	DIN	Lead	ug/l	36J	42.2J	32.6		24.2J				29				21.7		84.6	25.3	20.8
SWMU 14	MW-14-5	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									25U								
SWMU 14	MW-14-5	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									180U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2-Chloronaphthalene	ug/l									25U								
SWMU 14	MW-14-5	Groundwater	SVOA	2-Chlorophenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2-Methylnaphthalene	ug/l									25U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	2-Methylphenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2-Nitroaniline	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	2-Nitrophenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	3-Nitroaniline	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									180U								
SWMU 14	MW-14-5	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	4-Chloroaniline	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	4-Nitroaniline	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	4-Nitrophenol	ug/l									140U								
SWMU 14	MW-14-5	Groundwater	SVOA	Acenaphthene	ug/l									25U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Acenaphthylene	ug/l									20U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Aniline	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Anthracene	ug/l									20U				0.3U		0.32U		
SWMU 14	MW-14-5	Groundwater	SVOA	Azobenzene	ug/l									200U								
SWMU 14	MW-14-5	Groundwater	SVOA	Benzo(a)anthracene	ug/l									20U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Benzo(a)pyrene	ug/l									20U				0.063U		0.067U		
SWMU 14	MW-14-5	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									20U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									25U				0.09U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									25U				0.1U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Benzoic acid	ug/l									51U								
SWMU 14	MW-14-5	Groundwater	SVOA	Benzyl alcohol	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									25U								
SWMU 14	MW-14-5	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									20U						2.7U	0.5U	
SWMU 14	MW-14-5	Groundwater	SVOA	Butylbenzylphthalate	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Chrysene	ug/l									20U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Cresols	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									25U				0.15U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Dibenzofuran	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Diethylphthalate	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Dimethylphthalate	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Di-n-butylphthalate	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Di-n-octylphthalate	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Fluoranthene	ug/l									20U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Fluorene	ug/l									20U				0.12U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Hexachlorobenzene	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Hexachlorobutadiene	ug/l									30U								
SWMU 14	MW-14-5	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									30U								
SWMU 14	MW-14-5	Groundwater	SVOA	Hexachloroethane	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									20U				0.2U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Isophorone	ug/l									25U								
SWMU 14	MW-14-5	Groundwater	SVOA	Naphthalene	ug/l									20U				2.3		1.5		
SWMU 14	MW-14-5	Groundwater	SVOA	Nitrobenzene	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									20U								
SWMU 14	MW-14-5	Groundwater	SVOA	Pentachlorophenol	ug/l									140U								
SWMU 14	MW-14-5	Groundwater	SVOA	Phenanthrene	ug/l									20U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	SVOA	Phenol	ug/l									10U								
SWMU 14	MW-14-5	Groundwater	SVOA	Pyrene	ug/l									20U				0.05U		0.053U		
SWMU 14	MW-14-5	Groundwater	TIN	Antimony	ug/l													0.5U				
SWMU 14	MW-14-5	Groundwater	TIN	Lead	ug/l	28.7J	42.3J	31.9		21J				30.6				29.8		83.6	21.5	22.3
SWMU 14	MW-14-5	Groundwater	TIN	Thallium	ug/l													0.25U		0.25U	0.07UJ	
SWMU 14	MW-14-5	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100	80UJ	81U		82U												
SWMU 14	MW-14-5	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	1400J	680J		720J												

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SWMU 14	MW-14-5	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	61U														
SWMU 14	MW-14-5	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80UJ	81U														
SWMU 14	MW-14-5	Groundwater	TPH	C6-C10 Aliphatics	ug/l													6300			9650J	
SWMU 14	MW-14-5	Groundwater	TPH	C6-C10 Aromatics	ug/l													5500			10200J	
SWMU 14	MW-14-5	Groundwater	TPH	C6-C9 Aliphatics	ug/l	8700	10000	6800		7500												
SWMU 14	MW-14-5	Groundwater	TPH	C6-C9 Aromatics	ug/l	9300	8200	4700		7700												
SWMU 14	MW-14-5	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									10300						4600		
SWMU 14	MW-14-5	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									5590						8100		
SWMU 14	MW-14-5	Groundwater	TPH	DRO	ug/l		1500J	680		720J				3900				3000		3800	1720	2770J
SWMU 14	MW-14-5	Groundwater	TPH	GRO	ug/l	18000	18000	12000		15000				15900				12000		13000	19800	12600J
SWMU 14	MW-14-5	Groundwater	TPH	RRO	ug/l									1120U				360				
SWMU 14	MW-14-5	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									10U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,1-Dichloroethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,1-Dichloroethene	ug/l									5U				2U		40U	10U	10U
SWMU 14	MW-14-5	Groundwater	VOA	1,1-Dichloropropene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									10U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									10U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1150				810				
SWMU 14	MW-14-5	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									12.5U				10U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2-Dibromoethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2-Dichloroethane	ug/l									10U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,2-Dichloropropane	ug/l									10U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									437				290				
SWMU 14	MW-14-5	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,3-Dichloropropane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	2,2-Dichloropropane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	2-Butanone	ug/l									250U				50U				
SWMU 14	MW-14-5	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									50U				10U				
SWMU 14	MW-14-5	Groundwater	VOA	2-Chlorotoluene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	2-Hexanone	ug/l									50U				20U				
SWMU 14	MW-14-5	Groundwater	VOA	4-Chlorotoluene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	4-Isopropyltoluene	ug/l									10.2				8.9				
SWMU 14	MW-14-5	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									50U				20U				
SWMU 14	MW-14-5	Groundwater	VOA	Acetone	ug/l													50U				
SWMU 14	MW-14-5	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 14	MW-14-5	Groundwater	VOA	Benzene	ug/l	10U	20U	0.2U		20U				20.1				16		40U	5U	5U
SWMU 14	MW-14-5	Groundwater	VOA	Bromobenzene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Bromochloromethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Bromodichloromethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Bromoform	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Bromomethane	ug/l									10U				5U				
SWMU 14	MW-14-5	Groundwater	VOA	BTEX (total)	ug/l	5270																
SWMU 14	MW-14-5	Groundwater	VOA	Carbon disulfide	ug/l									50U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Carbon tetrachloride	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Chlorobenzene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Chloroethane	ug/l									5U				5U				
SWMU 14	MW-14-5	Groundwater	VOA	Chloroform	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Chloromethane	ug/l									5U				5U				
SWMU 14	MW-14-5	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									5U				2U		40U	10U	10U
SWMU 14	MW-14-5	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Dibromochloromethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Dibromomethane	ug/l									10U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Dichlorodifluoromethane	ug/l									5U				5U				
SWMU 14	MW-14-5	Groundwater	VOA	Ethylbenzene	ug/l	530	390	190		420J				413				310		440	461J	502J
SWMU 14	MW-14-5	Groundwater	VOA	Hexachlorobutadiene	ug/l									10U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 14	MW-14-5	Groundwater	VOA	Isopropylbenzene	ug/l									49.1				50				
SWMU 14	MW-14-5	Groundwater	VOA	m,p-Xylene	ug/l	2800	1900	1300		2600				2290				1500		2400		
SWMU 14	MW-14-5	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		40U		
SWMU 14	MW-14-5	Groundwater	VOA	Methylene chloride	ug/l									25U				5U		54U	50U	20U
SWMU 14	MW-14-5	Groundwater	VOA	Naphthalene	ug/l									143				130				
SWMU 14	MW-14-5	Groundwater	VOA	n-Butylbenzene	ug/l									16.7				2U				
SWMU 14	MW-14-5	Groundwater	VOA	n-Propylbenzene	ug/l									130				130				
SWMU 14	MW-14-5	Groundwater	VOA	o-Xylene	ug/l	1300	890	710		1300				1070				790		1252.4		
SWMU 14	MW-14-5	Groundwater	VOA	sec-Butylbenzene	ug/l									7.7				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Styrene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	tert-Butylbenzene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Tetrachloroethene	ug/l									5U				1.6J		40U	2.4J	2.1J
SWMU 14	MW-14-5	Groundwater	VOA	Toluene	ug/l	640	660	340		370				361				190		210	87.6J	22.2J
SWMU 14	MW-14-5	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									5U				2U		40U	10U	10U
SWMU 14	MW-14-5	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 14	MW-14-5	Groundwater	VOA	Trichloroethene	ug/l									5U				2U		40U	10U	10U
SWMU 14	MW-14-5	Groundwater	VOA	Trichlorofluoromethane	ug/l									5U				2U				
SWMU 14	MW-14-5	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 14	MW-14-5	Groundwater	VOA	Vinyl chloride	ug/l									10U				2U		40UJ	10U	10U
SWMU 14	MW-14-5	Groundwater	VOA	Xylenes	ug/l													2300			3610J	3930J
SWMU 14	MW-14-5	Groundwater	VOA	Xylenes (total)	ug/l	4100																
SWMU 15	MW-1 (15-1)	Groundwater	DIN	Lead	ug/l													0.1U				
SWMU 15	MW-1 (15-1)	Groundwater	TIN	Lead	ug/l													0.15U				
SWMU 15	MW-1 (15-1)	Groundwater	TPH	C6-C10 Aliphatics	ug/l													6.4J				
SWMU 15	MW-1 (15-1)	Groundwater	TPH	C6-C10 Aromatics	ug/l													11J				
SWMU 15	MW-1 (15-1)	Groundwater	TPH	DRO	ug/l													1000				
SWMU 15	MW-1 (15-1)	Groundwater	TPH	GRO	ug/l													18J				

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Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 15	MW-1 (15-1)	Groundwater	TPH	RRO	ug/l													280				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1,1-Trichloroethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1,2-Trichloroethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1-Dichloroethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1-Dichloroethene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,1-Dichloropropene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2,3-Trichloropropane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l													2.6				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l													10U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2-Dibromoethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2-Dichlorobenzene	ug/l													1.4J				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2-Dichloroethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,2-Dichloropropane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,3-Dichlorobenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,3-Dichloropropane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	1,4-Dichlorobenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	2,2-Dichloropropane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	2-Butanone	ug/l													50U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l													10U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	2-Chlorotoluene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	2-Hexanone	ug/l													20U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	4-Chlorotoluene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	4-Isopropyltoluene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	4-Methyl-2-pentanone	ug/l													20U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Acetone	ug/l													50U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Benzene	ug/l													1U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Bromobenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Bromochloromethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Bromodichloromethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Bromoform	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Bromomethane	ug/l													5U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Carbon disulfide	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Carbon tetrachloride	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Chlorobenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Chloroethane	ug/l													5U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Chloroform	ug/l													1.2J				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Chloromethane	ug/l													5U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Dibromochloromethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Dibromomethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Dichlorodifluoromethane	ug/l													5U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Ethylbenzene	ug/l													1U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Hexachlorobutadiene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Isopropylbenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	m,p-Xylene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Methylene chloride	ug/l													3.4J				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Naphthalene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	n-Butylbenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	n-Propylbenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	o-Xylene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	sec-Butylbenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Styrene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	tert-Butylbenzene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Tetrachloroethene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Toluene	ug/l													1U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Trichloroethene	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Trichlorofluoromethane	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Vinyl chloride	ug/l													2U				
SWMU 15	MW-1 (15-1)	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 15	MW15-3	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	75U	79UJ			80UJ											
SWMU 15	MW15-3	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	75U	79UJ			80UJ											
SWMU 15	MW15-3	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	57U	59UJ														
SWMU 15	MW15-3	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	75U	79UJ														
SWMU 15	MW15-3	Groundwater	TPH	C6-C9 Aliphatics	ug/l	32	25J	20U			25											
SWMU 15	MW15-3	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SWMU 15	MW15-3	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U						8.5J		
SWMU 15	MW15-3	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U						14U		
SWMU 15	MW15-3	Groundwater	TPH	DRO	ug/l		150U	160UJ			160UJ			538U				160U		43J		
SWMU 15	MW15-3	Groundwater	TPH	GRO	ug/l	33	26	20U			25			90U				13J		12J		
SWMU 15	MW15-3	Groundwater	TPH	RRO	ug/l									1080U				150J				
SWMU 15	MW15-3	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 15	MW15-3	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U		2U	1U	1U

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 15	MW15-3	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U				
SWMU 15	MW15-3	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	2-Butanone	ug/l									50U				50U				
SWMU 15	MW15-3	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U				
SWMU 15	MW15-3	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	2-Hexanone	ug/l									10U				20U				
SWMU 15	MW15-3	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U				
SWMU 15	MW15-3	Groundwater	VOA	Acetone	ug/l													4.2J				
SWMU 15	MW15-3	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 15	MW15-3	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U			0.5U				1U		2U		
SWMU 15	MW15-3	Groundwater	VOA	Bromobenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Bromoform	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Bromomethane	ug/l									2U				5U				
SWMU 15	MW15-3	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SWMU 15	MW15-3	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Chloroethane	ug/l									1U				5U				
SWMU 15	MW15-3	Groundwater	VOA	Chloroform	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Chloromethane	ug/l									1U				5U				
SWMU 15	MW15-3	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U				9.9		1.9J	4.27	2.32
SWMU 15	MW15-3	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Dibromomethane	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U				
SWMU 15	MW15-3	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U			0.2U			1U				1U		2U		
SWMU 15	MW15-3	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 15	MW15-3	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U			0.4U			2U				2U		2U		
SWMU 15	MW15-3	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		2U		
SWMU 15	MW15-3	Groundwater	VOA	Methylene chloride	ug/l									7.12				0.87J		5U	5U	
SWMU 15	MW15-3	Groundwater	VOA	Naphthalene	ug/l									2U				2U				
SWMU 15	MW15-3	Groundwater	VOA	n-Butylbenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	n-Propylbenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2UJ			1U				2U		2U		
SWMU 15	MW15-3	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Styrene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Tetrachloroethene	ug/l									12.3				10		5.5	4.03	7.15
SWMU 15	MW15-3	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			1U				1U		2U		
SWMU 15	MW15-3	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U				2U		2U	0.34J	0.19J
SWMU 15	MW15-3	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 15	MW15-3	Groundwater	VOA	Trichloroethene	ug/l									6.24				9.2		9.3	13.6	9.84
SWMU 15	MW15-3	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U				
SWMU 15	MW15-3	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 15	MW15-3	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U		2UJ	1U	1U
SWMU 15	MW15-3	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 15	MW15-3	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SWMU 15	MW15-424	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	77U	150			80U											
SWMU 15	MW15-424	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	77U	80UJ			80UJ											
SWMU 15	MW15-424	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	67														
SWMU 15	MW15-424	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	77U	80U														
SWMU 15	MW15-424	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U			20U											
SWMU 15	MW15-424	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SWMU 15	MW15-424	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U						36U		
SWMU 15	MW15-424	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U						14U		
SWMU 15	MW15-424	Groundwater	TPH	DRO	ug/l		150U	220			160UJ			549U				160U		100U		
SWMU 15	MW15-424	Groundwater	TPH	GRO	ug/l	20U	20U	20U			20U			90U				50U		11J		
SWMU 15	MW15-424	Groundwater	TPH	RRO	ug/l									1100U				170J				
SWMU 15	MW15-424	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,1,1-Trichloroethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,1,2-Trichloroethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,1-Dichloroethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,1-Dichloroethene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,1-Dichloropropene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2,3-Trichloropropane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l													10U		10U		

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SWMU 15	MW15-424	Groundwater	VOA	1,2-Dibromoethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2-Dichlorobenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2-Dichloroethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,2-Dichloropropane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,3-Dichlorobenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,3-Dichloropropane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	1,4-Dichlorobenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	2,2-Dichloropropane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	2-Butanone	ug/l													50U		50U		
SWMU 15	MW15-424	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l													10U		10U		
SWMU 15	MW15-424	Groundwater	VOA	2-Chlorotoluene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	2-Hexanone	ug/l													0.5J		20U		
SWMU 15	MW15-424	Groundwater	VOA	4-Chlorotoluene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	4-Isopropyltoluene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	4-Methyl-2-pentanone	ug/l													20U		20U		
SWMU 15	MW15-424	Groundwater	VOA	Acetone	ug/l													50U		50U		
SWMU 15	MW15-424	Groundwater	VOA	Acrylonitrile	ug/l													10U		10U		
SWMU 15	MW15-424	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U			0.5U				1U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Bromobenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Bromochloromethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Bromodichloromethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Bromoform	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Bromomethane	ug/l													5U		5U		
SWMU 15	MW15-424	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SWMU 15	MW15-424	Groundwater	VOA	Carbon disulfide	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Carbon tetrachloride	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Chlorobenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Chloroethane	ug/l													5U		5U		
SWMU 15	MW15-424	Groundwater	VOA	Chloroform	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Chloromethane	ug/l													5U		5U		
SWMU 15	MW15-424	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Dibromochloromethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Dibromomethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Dichlorodifluoromethane	ug/l													5U		5U		
SWMU 15	MW15-424	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U			0.2U			2U				1U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Hexachlorobutadiene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Iodomethane	ug/l													5U		5U		
SWMU 15	MW15-424	Groundwater	VOA	Isopropylbenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U			0.4U			2U				2U		1.1J		
SWMU 15	MW15-424	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Methylene chloride	ug/l													5U		0.77U		
SWMU 15	MW15-424	Groundwater	VOA	Naphthalene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	n-Butylbenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	n-Propylbenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2UJ			2U				2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	sec-Butylbenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Styrene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	tert-Butylbenzene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Tetrachloroethene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			2U				1U		1J		
SWMU 15	MW15-424	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U		10U		
SWMU 15	MW15-424	Groundwater	VOA	Trichloroethene	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Trichlorofluoromethane	ug/l													2U		2U		
SWMU 15	MW15-424	Groundwater	VOA	Vinyl acetate	ug/l													5U		5U		
SWMU 15	MW15-424	Groundwater	VOA	Vinyl chloride	ug/l													2U		2UJ		
SWMU 15	MW15-424	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 15	MW15-424	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SWMU 17	05-375	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									27U								
SWMU 17	05-375	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									200U								
SWMU 17	05-375	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2-Chloronaphthalene	ug/l									27U								
SWMU 17	05-375	Groundwater	SVOA	2-Chlorophenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2-Methylnaphthalene	ug/l									27U				12				
SWMU 17	05-375	Groundwater	SVOA	2-Methylphenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2-Nitroaniline	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	2-Nitrophenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	3-Nitroaniline	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									200U								
SWMU 17	05-375	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	4-Chloroaniline	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	4-Nitroaniline	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	4-Nitrophenol	ug/l									150U								
SWMU 17	05-375	Groundwater	SVOA	Acenaphthene	ug/l									27U				0.92				
SWMU 17	05-375	Groundwater	SVOA	Acenaphthylene	ug/l									22U				0.27				
SWMU 17	05-375	Groundwater	SVOA	Aniline	ug/l									22U								

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Non-Landfill Sites
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	05-375	Groundwater	SVOA	Anthracene	ug/l									22U				0.31U				
SWMU 17	05-375	Groundwater	SVOA	Azobenzene	ug/l									220U								
SWMU 17	05-375	Groundwater	SVOA	Benzo(a)anthracene	ug/l									22U				0.052U				
SWMU 17	05-375	Groundwater	SVOA	Benzo(a)pyrene	ug/l									22U				0.073				
SWMU 17	05-375	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									22U				0.083				
SWMU 17	05-375	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									27U				0.094U				
SWMU 17	05-375	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									27U				0.1U				
SWMU 17	05-375	Groundwater	SVOA	Benzoic acid	ug/l									55U								
SWMU 17	05-375	Groundwater	SVOA	Benzyl alcohol	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									27U								
SWMU 17	05-375	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Butylbenzylphthalate	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Chrysene	ug/l									22U				0.052U				
SWMU 17	05-375	Groundwater	SVOA	Cresols	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									27U				0.16U				
SWMU 17	05-375	Groundwater	SVOA	Dibenzofuran	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Diethylphthalate	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Dimethylphthalate	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Di-n-butylphthalate	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Di-n-octylphthalate	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Fluoranthene	ug/l									22U				0.1				
SWMU 17	05-375	Groundwater	SVOA	Fluorene	ug/l									22U				2.9				
SWMU 17	05-375	Groundwater	SVOA	Hexachlorobenzene	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Hexachlorobutadiene	ug/l									33U								
SWMU 17	05-375	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									33U								
SWMU 17	05-375	Groundwater	SVOA	Hexachloroethane	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									22U				0.21U				
SWMU 17	05-375	Groundwater	SVOA	Isophorone	ug/l									27U								
SWMU 17	05-375	Groundwater	SVOA	Naphthalene	ug/l									22U				4.5				
SWMU 17	05-375	Groundwater	SVOA	Nitrobenzene	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									22U								
SWMU 17	05-375	Groundwater	SVOA	Pentachlorophenol	ug/l									150U								
SWMU 17	05-375	Groundwater	SVOA	Phenanthrene	ug/l									22U				1.4				
SWMU 17	05-375	Groundwater	SVOA	Phenol	ug/l									11U								
SWMU 17	05-375	Groundwater	SVOA	Pyrene	ug/l									22U				0.073				
SWMU 17	05-375	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 17	05-375	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 17	05-375	Groundwater	TPH	DRO	ug/l							296	100U	698				460		480	600	554J
SWMU 17	05-375	Groundwater	TPH	GRO	ug/l							50U	50U	90U				18J		43U	37.5UJ	80U
SWMU 17	05-375	Groundwater	TPH	RRO	ug/l							750U		1090U				290				
SWMU 17	05-375	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 17	05-375	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U				
SWMU 17	05-375	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
SWMU 17	05-375	Groundwater	VOA	2-Butanone	ug/l									50U				50U				
SWMU 17	05-375	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U				
SWMU 17	05-375	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	2-Hexanone	ug/l									10U				20U				
SWMU 17	05-375	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				0.5J				
SWMU 17	05-375	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U				
SWMU 17	05-375	Groundwater	VOA	Acetone	ug/l													50U				
SWMU 17	05-375	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 17	05-375	Groundwater	VOA	Benzene	ug/l							0.2U	0.2U	0.5U				1U		2U	0.5U	0.33J
SWMU 17	05-375	Groundwater	VOA	Bromobenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Bromoform	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Bromomethane	ug/l									2U				5U				
SWMU 17	05-375	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U				
SWMU 17	05-375	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Chloroethane	ug/l									1U				5U				
SWMU 17	05-375	Groundwater	VOA	Chloroform	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Chloromethane	ug/l									1U				5U				
SWMU 17	05-375	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U				0.79J				
SWMU 17	05-375	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Dibromomethane	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U				

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SWMU 17	05-375	Groundwater	VOA	Ethylbenzene	ug/l							0.5U	0.5U	1U				1U		2U	0.23J	0.29J
SWMU 17	05-375	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 17	05-375	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	m,p-Xylene	ug/l									2U				2U		2U		
SWMU 17	05-375	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		2U		
SWMU 17	05-375	Groundwater	VOA	Methylene chloride	ug/l									5U				5U				
SWMU 17	05-375	Groundwater	VOA	Naphthalene	ug/l									6.06				4.3				
SWMU 17	05-375	Groundwater	VOA	n-Butylbenzene	ug/l									2.51				0.92J				
SWMU 17	05-375	Groundwater	VOA	n-Propylbenzene	ug/l									2.06				2.2				
SWMU 17	05-375	Groundwater	VOA	o-Xylene	ug/l									1U				2U		2U		
SWMU 17	05-375	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				0.84J				
SWMU 17	05-375	Groundwater	VOA	Styrene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Tetrachloroethene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Toluene	ug/l							0.5U	0.5U	1U				1U		2U	0.5U	0.5U
SWMU 17	05-375	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 17	05-375	Groundwater	VOA	Trichloroethene	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U				
SWMU 17	05-375	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 17	05-375	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U				
SWMU 17	05-375	Groundwater	VOA	Xylenes	ug/l							1U	1U					3U			1U	1U
SWMU 17	05-735	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									27U								
SWMU 17	05-735	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2,2-Dichloropropane	ug/l									1U								
SWMU 17	05-735	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									200U								
SWMU 17	05-735	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2-Chloronaphthalene	ug/l									27U								
SWMU 17	05-735	Groundwater	SVOA	2-Chlorophenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2-Methylnaphthalene	ug/l									27U				0.052U				
SWMU 17	05-735	Groundwater	SVOA	2-Methylphenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2-Nitroaniline	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	2-Nitrophenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	3-Nitroaniline	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									200U								
SWMU 17	05-735	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	4-Chloroaniline	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	4-Nitroaniline	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	4-Nitrophenol	ug/l									150U								
SWMU 17	05-735	Groundwater	SVOA	Acenaphthene	ug/l									27U				0.073				
SWMU 17	05-735	Groundwater	SVOA	Acenaphthylene	ug/l									22U				0.052U				
SWMU 17	05-735	Groundwater	SVOA	Aniline	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Anthracene	ug/l									22U				0.31U				
SWMU 17	05-735	Groundwater	SVOA	Azobenzene	ug/l									220U								
SWMU 17	05-735	Groundwater	SVOA	Benzo(a)anthracene	ug/l									22U				0.052U				
SWMU 17	05-735	Groundwater	SVOA	Benzo(a)pyrene	ug/l									22U				0.066U				
SWMU 17	05-735	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									22U				0.052U				
SWMU 17	05-735	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									27U				0.094U				
SWMU 17	05-735	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									27U				0.1U				
SWMU 17	05-735	Groundwater	SVOA	Benzoic acid	ug/l									54U								
SWMU 17	05-735	Groundwater	SVOA	Benzyl alcohol	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									27U								
SWMU 17	05-735	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									22U						5.3U	0.5UJ	0.776UJ
SWMU 17	05-735	Groundwater	SVOA	Butylbenzylphthalate	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Chrysene	ug/l									22U				0.052U				
SWMU 17	05-735	Groundwater	SVOA	Cresols	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									27U				0.16U				
SWMU 17	05-735	Groundwater	SVOA	Dibenzofuran	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Diethylphthalate	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Dimethylphthalate	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Di-n-butylphthalate	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Di-n-octylphthalate	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Fluoranthene	ug/l									22U				0.052U				
SWMU 17	05-735	Groundwater	SVOA	Fluorene	ug/l									22U				0.13U				
SWMU 17	05-735	Groundwater	SVOA	Hexachlorobenzene	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Hexachlorobutadiene	ug/l									33U								
SWMU 17	05-735	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									33U								
SWMU 17	05-735	Groundwater	SVOA	Hexachloroethane	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									22U				0.21U				
SWMU 17	05-735	Groundwater	SVOA	Isophorone	ug/l									27U								
SWMU 17	05-735	Groundwater	SVOA	Naphthalene	ug/l									22U				0.25U				
SWMU 17	05-735	Groundwater	SVOA	Nitrobenzene	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									22U								
SWMU 17	05-735	Groundwater	SVOA	Pentachlorophenol	ug/l									150U								
SWMU 17	05-735	Groundwater	SVOA	Phenanthrene	ug/l									22U				0.052U				

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	05-735	Groundwater	SVOA	Phenol	ug/l									11U								
SWMU 17	05-735	Groundwater	SVOA	Pyrene	ug/l									22U				0.052U				
SWMU 17	05-735	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													20U				
SWMU 17	05-735	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				20U		1.1J	5U	5U
SWMU 17	05-735	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				100U				
SWMU 17	05-735	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	2-Butanone	ug/l									50U				500U				
SWMU 17	05-735	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				100U				
SWMU 17	05-735	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	2-Hexanone	ug/l									10U				200U				
SWMU 17	05-735	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				200U				
SWMU 17	05-735	Groundwater	VOA	Acetone	ug/l													57J				
SWMU 17	05-735	Groundwater	VOA	Acrylonitrile	ug/l													100U				
SWMU 17	05-735	Groundwater	VOA	Benzene	ug/l									0.5U				20U				
SWMU 17	05-735	Groundwater	VOA	Bromobenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Bromochloromethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Bromodichloromethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Bromoform	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Bromomethane	ug/l									2U				50U				
SWMU 17	05-735	Groundwater	VOA	Carbon disulfide	ug/l									10U				20U				
SWMU 17	05-735	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Chlorobenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Chloroethane	ug/l									1U				50U				
SWMU 17	05-735	Groundwater	VOA	Chloroform	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Chloromethane	ug/l									1U				50U				
SWMU 17	05-735	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									189				420		730	483J	542J
SWMU 17	05-735	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Dibromochloromethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Dibromomethane	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				50U				
SWMU 17	05-735	Groundwater	VOA	Ethylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	Iodomethane	ug/l													50U				
SWMU 17	05-735	Groundwater	VOA	Isopropylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	m,p-Xylene	ug/l									2U				20U				
SWMU 17	05-735	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													20U				
SWMU 17	05-735	Groundwater	VOA	Methylene chloride	ug/l									5U				15J		5U	25U	10U
SWMU 17	05-735	Groundwater	VOA	Naphthalene	ug/l									2U				13J				
SWMU 17	05-735	Groundwater	VOA	n-Butylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	n-Propylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	o-Xylene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Styrene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Tetrachloroethene	ug/l									10				20U		3.2	10.4J	7.25J
SWMU 17	05-735	Groundwater	VOA	Toluene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									18.6				19J		25	28.6J	25.5J
SWMU 17	05-735	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													100U				
SWMU 17	05-735	Groundwater	VOA	Trichloroethene	ug/l									4.45				20U		3.5	5.1J	5.45J
SWMU 17	05-735	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				20U				
SWMU 17	05-735	Groundwater	VOA	Vinyl acetate	ug/l													50U				
SWMU 17	05-735	Groundwater	VOA	Vinyl chloride	ug/l									4.18				5.6J		7	6.7J	7.2J
SWMU 17	05-810	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									29U								
SWMU 17	05-810	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									210U								
SWMU 17	05-810	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2-Chloronaphthalene	ug/l									29U								
SWMU 17	05-810	Groundwater	SVOA	2-Chlorophenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2-Methylnaphthalene	ug/l									29U				0.083J				
SWMU 17	05-810	Groundwater	SVOA	2-Methylphenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2-Nitroaniline	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	2-Nitrophenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									23U								

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	05-810	Groundwater	SVOA	3-Nitroaniline	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									210U								
SWMU 17	05-810	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	4-Chloroaniline	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	4-Nitroaniline	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	4-Nitrophenol	ug/l									160U								
SWMU 17	05-810	Groundwater	SVOA	Acenaphthene	ug/l									29U				0.17				
SWMU 17	05-810	Groundwater	SVOA	Acenaphthylene	ug/l									23U				0.052U				
SWMU 17	05-810	Groundwater	SVOA	Aniline	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Anthracene	ug/l									23U				0.31U				
SWMU 17	05-810	Groundwater	SVOA	Azobenzene	ug/l									230U								
SWMU 17	05-810	Groundwater	SVOA	Benzo(a)anthracene	ug/l									23U				0.052U				
SWMU 17	05-810	Groundwater	SVOA	Benzo(a)pyrene	ug/l									23U				0.066U				
SWMU 17	05-810	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									23U				0.063				
SWMU 17	05-810	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									29U				0.094U				
SWMU 17	05-810	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									29U				0.1U				
SWMU 17	05-810	Groundwater	SVOA	Benzoic acid	ug/l									58U								
SWMU 17	05-810	Groundwater	SVOA	Benzyl alcohol	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									29U								
SWMU 17	05-810	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Butylbenzylphthalate	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Chrysene	ug/l									23U				0.052U				
SWMU 17	05-810	Groundwater	SVOA	Cresols	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									29U				0.16U				
SWMU 17	05-810	Groundwater	SVOA	Dibenzofuran	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Diethylphthalate	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Dimethylphthalate	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Di-n-butylphthalate	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Di-n-octylphthalate	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Fluoranthene	ug/l									23U				0.073				
SWMU 17	05-810	Groundwater	SVOA	Fluorene	ug/l									23U				0.13U				
SWMU 17	05-810	Groundwater	SVOA	Hexachlorobenzene	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Hexachlorobutadiene	ug/l									35U								
SWMU 17	05-810	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									35U								
SWMU 17	05-810	Groundwater	SVOA	Hexachloroethane	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									23U				0.21U				
SWMU 17	05-810	Groundwater	SVOA	Isophorone	ug/l									29U								
SWMU 17	05-810	Groundwater	SVOA	Naphthalene	ug/l									23U				0.25U				
SWMU 17	05-810	Groundwater	SVOA	Nitrobenzene	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									23U								
SWMU 17	05-810	Groundwater	SVOA	Pentachlorophenol	ug/l									160U								
SWMU 17	05-810	Groundwater	SVOA	Phenanthrene	ug/l									23U				0.052				
SWMU 17	05-810	Groundwater	SVOA	Phenol	ug/l									12U								
SWMU 17	05-810	Groundwater	SVOA	Pyrene	ug/l									23U				0.052				
SWMU 17	05-810	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	88	79U	78U													
SWMU 17	05-810	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	110U	79UJ	78UJ													
SWMU 17	05-810	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	59U														
SWMU 17	05-810	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	79U														
SWMU 17	05-810	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U	20U													
SWMU 17	05-810	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
SWMU 17	05-810	Groundwater	TPH	DRO	ug/l		200U	160U	160UJ					549U				160U		100U	250U	245U
SWMU 17	05-810	Groundwater	TPH	GRO	ug/l	20U	20U	20U	20U									7.3J		12U	19.3UJ	80U
SWMU 17	05-810	Groundwater	TPH	RRO	ug/l									1100U				280U				
SWMU 17	05-810	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 17	05-810	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U				
SWMU 17	05-810	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
SWMU 17	05-810	Groundwater	VOA	2-Butanone	ug/l									50U				50U				
SWMU 17	05-810	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U				
SWMU 17	05-810	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	2-Hexanone	ug/l									10U				20U				
SWMU 17	05-810	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U				
SWMU 17	05-810	Groundwater	VOA	Acetone	ug/l													50U				
SWMU 17	05-810	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 17	05-810	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U	0.2U					0.5U				1U		2U	0.5U	0.5U
SWMU 17	05-810	Groundwater	VOA	Bromobenzene	ug/l									1U				2U				

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	05-810	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Bromoform	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Bromomethane	ug/l									2U				5U				
SWMU 17	05-810	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
SWMU 17	05-810	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U				
SWMU 17	05-810	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Chloroethane	ug/l									1U				5U				
SWMU 17	05-810	Groundwater	VOA	Chloroform	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Chloromethane	ug/l									1U				5U				
SWMU 17	05-810	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Dibromomethane	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U				
SWMU 17	05-810	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U	0.2U					1U				1U		2U	0.5U	0.5U
SWMU 17	05-810	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 17	05-810	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U	0.4U					2U				2U		2U		
SWMU 17	05-810	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		2U		
SWMU 17	05-810	Groundwater	VOA	Methylene chloride	ug/l									5U				5U				
SWMU 17	05-810	Groundwater	VOA	Naphthalene	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	n-Butylbenzene	ug/l									1.03				2U				
SWMU 17	05-810	Groundwater	VOA	n-Propylbenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U	0.2U					1U				2U		2U		
SWMU 17	05-810	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Styrene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Tetrachloroethene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U	0.3U					1U				1U		2U	0.5U	0.5U
SWMU 17	05-810	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 17	05-810	Groundwater	VOA	Trichloroethene	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U				
SWMU 17	05-810	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 17	05-810	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U				
SWMU 17	05-810	Groundwater	VOA	Xylenes	ug/l													3U			1U	1U
SWMU 17	05-810	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
SWMU 17	05-811	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									29U								
SWMU 17	05-811	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									210U								
SWMU 17	05-811	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2-Chloronaphthalene	ug/l									29U								
SWMU 17	05-811	Groundwater	SVOA	2-Chlorophenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2-Methylnaphthalene	ug/l									29U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	2-Methylphenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2-Nitroaniline	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	2-Nitrophenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	3-Nitroaniline	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									210U								
SWMU 17	05-811	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	4-Chloroaniline	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	4-Nitroaniline	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	4-Nitrophenol	ug/l									160U								
SWMU 17	05-811	Groundwater	SVOA	Acenaphthene	ug/l									29U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	Acenaphthylene	ug/l									23U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	Aniline	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Anthracene	ug/l									23U				0.31U				
SWMU 17	05-811	Groundwater	SVOA	Azobenzene	ug/l									230U								
SWMU 17	05-811	Groundwater	SVOA	Benzo(a)anthracene	ug/l									23U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	Benzo(a)pyrene	ug/l									23U				0.066U				
SWMU 17	05-811	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									23U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									29U				0.094U				
SWMU 17	05-811	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									29U				0.1U				
SWMU 17	05-811	Groundwater	SVOA	Benzoic acid	ug/l									57U								
SWMU 17	05-811	Groundwater	SVOA	Benzyl alcohol	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									29U								
SWMU 17	05-811	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Butylbenzylphthalate	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Chrysene	ug/l									23U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	Cresols	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									29U				0.16U				
SWMU 17	05-811	Groundwater	SVOA	Dibenzofuran	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Diethylphthalate	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Dimethylphthalate	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Di-n-butylphthalate	ug/l									23U								

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SWMU 17	05-811	Groundwater	SVOA	Di-n-octylphthalate	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Fluoranthene	ug/l									23U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	Fluorene	ug/l									23U				0.13U				
SWMU 17	05-811	Groundwater	SVOA	Hexachlorobenzene	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Hexachlorobutadiene	ug/l									34U								
SWMU 17	05-811	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									34U								
SWMU 17	05-811	Groundwater	SVOA	Hexachloroethane	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									23U				0.21U				
SWMU 17	05-811	Groundwater	SVOA	Isophorone	ug/l									29U								
SWMU 17	05-811	Groundwater	SVOA	Naphthalene	ug/l									23U				0.25U				
SWMU 17	05-811	Groundwater	SVOA	Nitrobenzene	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									23U								
SWMU 17	05-811	Groundwater	SVOA	Pentachlorophenol	ug/l									160U								
SWMU 17	05-811	Groundwater	SVOA	Phenanthrene	ug/l									23U				0.052U				
SWMU 17	05-811	Groundwater	SVOA	Phenol	ug/l									11U								
SWMU 17	05-811	Groundwater	SVOA	Pyrene	ug/l									23U				0.052U				
SWMU 17	05-811	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	98	82UJ	78U													
SWMU 17	05-811	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	78U	82UJ	78UJ													
SWMU 17	05-811	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59U	62UJ														
SWMU 17	05-811	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	82UJ														
SWMU 17	05-811	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U	20U													
SWMU 17	05-811	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
SWMU 17	05-811	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 17	05-811	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 17	05-811	Groundwater	TPH	DRO	ug/l		160U	160UJ	160UJ					581U				160U		100U	250U	248U
SWMU 17	05-811	Groundwater	TPH	GRO	ug/l	20U	20	20U	20U					90U				50U		9.9U	80U	80U
SWMU 17	05-811	Groundwater	TPH	RRO	ug/l									1160U				280U				
SWMU 17	05-811	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 17	05-811	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U				
SWMU 17	05-811	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
SWMU 17	05-811	Groundwater	VOA	2-Butanone	ug/l									50U				50U				
SWMU 17	05-811	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U				
SWMU 17	05-811	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	2-Hexanone	ug/l									10U				20U				
SWMU 17	05-811	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U				
SWMU 17	05-811	Groundwater	VOA	Acetone	ug/l													5.3J				
SWMU 17	05-811	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 17	05-811	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U	0.2U					0.5U				1U		2U	0.5U	0.5U
SWMU 17	05-811	Groundwater	VOA	Bromobenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Bromoform	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Bromomethane	ug/l									2U				5U				
SWMU 17	05-811	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
SWMU 17	05-811	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U				
SWMU 17	05-811	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Chloroethane	ug/l									1U				5U				
SWMU 17	05-811	Groundwater	VOA	Chloroform	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Chloromethane	ug/l									1U				5U				
SWMU 17	05-811	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Dibromomethane	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U				
SWMU 17	05-811	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U	0.2U					1U				1U		2U	0.5U	0.5U
SWMU 17	05-811	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 17	05-811	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U	0.4U					2U				2U		2U		
SWMU 17	05-811	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		2U		
SWMU 17	05-811	Groundwater	VOA	Methylene chloride	ug/l									5U				5U				
SWMU 17	05-811	Groundwater	VOA	Naphthalene	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	n-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	n-Propylbenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U	0.2U					1U				2U		2U		
SWMU 17	05-811	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Styrene	ug/l									1U				2U				

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	05-811	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Tetrachloroethene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U	0.3U					1U				1U		2U	0.5U	0.5U
SWMU 17	05-811	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 17	05-811	Groundwater	VOA	Trichloroethene	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U				
SWMU 17	05-811	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 17	05-811	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U				
SWMU 17	05-811	Groundwater	VOA	Xylenes	ug/l													3U			1U	1U
SWMU 17	05-811	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
SWMU 17	05-815	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									28U								
SWMU 17	05-815	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									200U								
SWMU 17	05-815	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2-Chloronaphthalene	ug/l									28U								
SWMU 17	05-815	Groundwater	SVOA	2-Chlorophenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2-Methylnaphthalene	ug/l									28U				0.1J				
SWMU 17	05-815	Groundwater	SVOA	2-Methylphenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2-Nitroaniline	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	2-Nitrophenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	3-Nitroaniline	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									200U								
SWMU 17	05-815	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	4-Chloroaniline	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	4-Nitroaniline	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	4-Nitrophenol	ug/l									160U								
SWMU 17	05-815	Groundwater	SVOA	Acenaphthene	ug/l									28U				0.063				
SWMU 17	05-815	Groundwater	SVOA	Acenaphthylene	ug/l									22U				0.052U				
SWMU 17	05-815	Groundwater	SVOA	Aniline	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Anthracene	ug/l									22U				0.31U				
SWMU 17	05-815	Groundwater	SVOA	Azobenzene	ug/l									220U								
SWMU 17	05-815	Groundwater	SVOA	Benzo(a)anthracene	ug/l									22U				0.052U				
SWMU 17	05-815	Groundwater	SVOA	Benzo(a)pyrene	ug/l									22U				0.073				
SWMU 17	05-815	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									22U				0.083				
SWMU 17	05-815	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									28U				0.094U				
SWMU 17	05-815	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									28U				0.1U				
SWMU 17	05-815	Groundwater	SVOA	Benzoic acid	ug/l									56U								
SWMU 17	05-815	Groundwater	SVOA	Benzyl alcohol	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									28U								
SWMU 17	05-815	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Butylbenzylphthalate	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Chrysene	ug/l									22U				0.052U				
SWMU 17	05-815	Groundwater	SVOA	Cresols	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									28U				0.16U				
SWMU 17	05-815	Groundwater	SVOA	Dibenzofuran	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Diethylphthalate	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Dimethylphthalate	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Di-n-butylphthalate	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Di-n-octylphthalate	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Fluoranthene	ug/l									22U				0.052U				
SWMU 17	05-815	Groundwater	SVOA	Fluorene	ug/l									22U				0.25				
SWMU 17	05-815	Groundwater	SVOA	Hexachlorobenzene	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Hexachlorobutadiene	ug/l									34U								
SWMU 17	05-815	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									34U								
SWMU 17	05-815	Groundwater	SVOA	Hexachloroethane	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									22U				0.21U				
SWMU 17	05-815	Groundwater	SVOA	Isophorone	ug/l									28U								
SWMU 17	05-815	Groundwater	SVOA	Naphthalene	ug/l									22U				0.25U				
SWMU 17	05-815	Groundwater	SVOA	Nitrobenzene	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									22U								
SWMU 17	05-815	Groundwater	SVOA	Pentachlorophenol	ug/l									160U								
SWMU 17	05-815	Groundwater	SVOA	Phenanthrene	ug/l									22U				0.052U				
SWMU 17	05-815	Groundwater	SVOA	Phenol	ug/l									11U								
SWMU 17	05-815	Groundwater	SVOA	Pyrene	ug/l									22U				0.052U				
SWMU 17	05-815	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	79U	78UJ	78U													
SWMU 17	05-815	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	100	78UJ	78UJ													
SWMU 17	05-815	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59U	58UJ														
SWMU 17	05-815	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	79U	78UJ														
SWMU 17	05-815	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U	20U													
SWMU 17	05-815	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U	20U													
SWMU 17	05-815	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 17	05-815	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 17	05-815	Groundwater	TPH	DRO	ug/l		170	160UJ	160UJ				247	543U				120J		160	92J	111J
SWMU 17	05-815	Groundwater	TPH	GRO	ug/l	20U	20U	20	20U				50U	90U				10J		18U	80U	80U
SWMU 17	05-815	Groundwater	TPH	RRO	ug/l									1090U				200J				

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Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	05-815	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 17	05-815	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U				
SWMU 17	05-815	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
SWMU 17	05-815	Groundwater	VOA	2-Butanone	ug/l									50U				50U				
SWMU 17	05-815	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U				
SWMU 17	05-815	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	2-Hexanone	ug/l									10U				20U				
SWMU 17	05-815	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U				
SWMU 17	05-815	Groundwater	VOA	Acetone	ug/l													7.5J				
SWMU 17	05-815	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 17	05-815	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U	0.2U				0.2U	0.5U				1U		2U	0.5U	0.5U
SWMU 17	05-815	Groundwater	VOA	Bromobenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Bromoform	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Bromomethane	ug/l									2U				5U				
SWMU 17	05-815	Groundwater	VOA	BTEX (total)	ug/l	0.4		0.2														
SWMU 17	05-815	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U				
SWMU 17	05-815	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Chloroethane	ug/l									1U				5U				
SWMU 17	05-815	Groundwater	VOA	Chloroform	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Chloromethane	ug/l									1U				5U				
SWMU 17	05-815	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U				0.79J				
SWMU 17	05-815	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Dibromomethane	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U				
SWMU 17	05-815	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U	0.2U				0.5U	1U				1U		2U	0.5U	0.5U
SWMU 17	05-815	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 17	05-815	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U	0.4U					2U				2U		2U		
SWMU 17	05-815	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		2U		
SWMU 17	05-815	Groundwater	VOA	Methylene chloride	ug/l									5U				5U				
SWMU 17	05-815	Groundwater	VOA	Naphthalene	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	n-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	n-Propylbenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U	0.2U					1U				2U		2U		
SWMU 17	05-815	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Styrene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Tetrachloroethene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U	0.3U				0.5U	1U				1U		2U	0.5U	0.5U
SWMU 17	05-815	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 17	05-815	Groundwater	VOA	Trichloroethene	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U				
SWMU 17	05-815	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 17	05-815	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U				
SWMU 17	05-815	Groundwater	VOA	Xylenes	ug/l								1U					3U			1U	1U
SWMU 17	05-815	Groundwater	VOA	Xylenes (total)	ug/l	0.4		0.2														
SWMU 17	HC-2	Groundwater	TPH	DRO	ug/l							160000										
SWMU 17	HC-2	Groundwater	TPH	GRO	ug/l							163J										
SWMU 17	HC-2	Groundwater	TPH	RRO	ug/l							75800U										
SWMU 17	HC-2	Groundwater	VOA	Benzene	ug/l							1.05										
SWMU 17	HC-2	Groundwater	VOA	Ethylbenzene	ug/l							10.7										
SWMU 17	HC-2	Groundwater	VOA	Toluene	ug/l							0.5U										
SWMU 17	HC-2	Groundwater	VOA	Xylenes	ug/l							5.31										
SWMU 17	HC-3	Groundwater	TPH	DRO	ug/l							148000										
SWMU 17	HC-3	Groundwater	TPH	GRO	ug/l							137J										
SWMU 17	HC-3	Groundwater	TPH	RRO	ug/l							15800U										
SWMU 17	HC-3	Groundwater	VOA	Benzene	ug/l							0.2U										
SWMU 17	HC-3	Groundwater	VOA	Ethylbenzene	ug/l							0.776										
SWMU 17	HC-3	Groundwater	VOA	Toluene	ug/l							0.5U										
SWMU 17	HC-3	Groundwater	VOA	Xylenes	ug/l							1.16										
SWMU 17	MW-17-7 (MW-50)	Groundwater	TPH	DRO	ug/l								621									
SWMU 17	MW-17-7 (MW-50)	Groundwater	TPH	GRO	ug/l								50U									
SWMU 17	MW-17-7 (MW-50)	Groundwater	VOA	Benzene	ug/l								0.2U									

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Groundwater
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SWMU 17	MW-17-7 (MW-50)	Groundwater	VOA	Ethylbenzene	ug/l								0.5U									
SWMU 17	MW-17-7 (MW-50)	Groundwater	VOA	Toluene	ug/l								0.5U									
SWMU 17	MW-17-7 (MW-50)	Groundwater	VOA	Xylenes	ug/l								1U									
SWMU 17	PP01	Groundwater	TPH	DRO	ug/l								159									
SWMU 17	PP01	Groundwater	TPH	GRO	ug/l								50U									
SWMU 17	PP01	Groundwater	VOA	Benzene	ug/l								0.2U									
SWMU 17	PP01	Groundwater	VOA	Ethylbenzene	ug/l								0.5U									
SWMU 17	PP01	Groundwater	VOA	Toluene	ug/l								0.5U									
SWMU 17	PP01	Groundwater	VOA	Xylenes	ug/l								1U									
SWMU 17	PP-02	Groundwater	TPH	DRO	ug/l								271									
SWMU 17	PP-02	Groundwater	TPH	GRO	ug/l								50U									
SWMU 17	PP-02	Groundwater	VOA	Benzene	ug/l								0.2U									
SWMU 17	PP-02	Groundwater	VOA	Ethylbenzene	ug/l								0.5U									
SWMU 17	PP-02	Groundwater	VOA	Toluene	ug/l								0.5U									
SWMU 17	PP-02	Groundwater	VOA	Xylenes	ug/l								1U									
SWMU 17	PP-03	Groundwater	TPH	DRO	ug/l								248									
SWMU 17	PP-03	Groundwater	TPH	GRO	ug/l								50U									
SWMU 17	PP-03	Groundwater	VOA	Benzene	ug/l								0.2U									
SWMU 17	PP-03	Groundwater	VOA	Ethylbenzene	ug/l								0.5U									
SWMU 17	PP-03	Groundwater	VOA	Toluene	ug/l								0.5U									
SWMU 17	PP-03	Groundwater	VOA	Xylenes	ug/l								1U									
SWMU 17	PP-04	Groundwater	TPH	DRO	ug/l								180									
SWMU 17	PP-04	Groundwater	TPH	GRO	ug/l								50U									
SWMU 17	PP-04	Groundwater	VOA	Benzene	ug/l								0.2U									
SWMU 17	PP-04	Groundwater	VOA	Ethylbenzene	ug/l								0.5U									
SWMU 17	PP-04	Groundwater	VOA	Toluene	ug/l								0.5U									
SWMU 17	PP-04	Groundwater	VOA	Xylenes	ug/l								1U									
SWMU 17	PP-05	Groundwater	TPH	DRO	ug/l								40600									
SWMU 17	PP-05	Groundwater	TPH	GRO	ug/l								501J									
SWMU 17	PP-05	Groundwater	VOA	Benzene	ug/l								8.73									
SWMU 17	PP-05	Groundwater	VOA	Ethylbenzene	ug/l								44.2									
SWMU 17	PP-05	Groundwater	VOA	Toluene	ug/l								1.25U									
SWMU 17	PP-05	Groundwater	VOA	Xylenes	ug/l								43.1									
SWMU 17	PP-06	Groundwater	SVOA	Acenaphthene	ug/l								0.152									
SWMU 17	PP-06	Groundwater	SVOA	Acenaphthylene	ug/l								0.133									
SWMU 17	PP-06	Groundwater	SVOA	Anthracene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Benzo(a)anthracene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Benzo(a)pyrene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Chrysene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Fluoranthene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Fluorene	ug/l								0.72									
SWMU 17	PP-06	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	SVOA	Naphthalene	ug/l								0.474									
SWMU 17	PP-06	Groundwater	SVOA	Phenanthrene	ug/l								0.303									
SWMU 17	PP-06	Groundwater	SVOA	Pyrene	ug/l								0.1U									
SWMU 17	PP-06	Groundwater	TPH	DRO	ug/l								912									
SWMU 17	PP-06	Groundwater	TPH	GRO	ug/l								50U									
SWMU 17	PP-06	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,1,1-Trichloroethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,1,2-Trichloroethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,1-Dichloroethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,1-Dichloroethene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,1-Dichloropropene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l								5U									
SWMU 17	PP-06	Groundwater	VOA	1,2-Dibromoethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2-Dichlorobenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2-Dichloroethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,2-Dichloropropane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,3-Dichlorobenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,3-Dichloropropane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	1,4-Dichlorobenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	2,2-Dichloropropane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	2-Butanone	ug/l								10U									
SWMU 17	PP-06	Groundwater	VOA	2-Chlorotoluene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	2-Hexanone	ug/l								10U									
SWMU 17	PP-06	Groundwater	VOA	4-Chlorotoluene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	4-Isopropyltoluene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	4-Methyl-2-pentanone	ug/l								10U									
SWMU 17	PP-06	Groundwater	VOA	Acetone	ug/l								25U									
SWMU 17	PP-06	Groundwater	VOA	Benzene	ug/l								0.2U									
SWMU 17	PP-06	Groundwater	VOA	Bromobenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Bromochloromethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Bromodichloromethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Bromoform	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Bromomethane	ug/l								2U									
SWMU 17	PP-06	Groundwater	VOA	Carbon disulfide	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Carbon tetrachloride	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Chlorobenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Chloroethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Chloroform	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Chloromethane	ug/l								5U									

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	PP-06	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Dibromochloromethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Dibromomethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Dichlorodifluoromethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Ethylbenzene	ug/l								0.5U									
SWMU 17	PP-06	Groundwater	VOA	Hexachlorobutadiene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Isopropylbenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	m,p-Xylene	ug/l								2U									
SWMU 17	PP-06	Groundwater	VOA	Methylene chloride	ug/l								5U									
SWMU 17	PP-06	Groundwater	VOA	Naphthalene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	n-Butylbenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	n-Propylbenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	o-Xylene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	sec-Butylbenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Styrene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	tert-Butylbenzene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Tetrachloroethene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Toluene	ug/l								0.5U									
SWMU 17	PP-06	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Trichloroethene	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Trichlorofluoromethane	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Vinyl chloride	ug/l								1U									
SWMU 17	PP-06	Groundwater	VOA	Xylenes	ug/l								1U									
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Acenaphthene	ug/l							0.245J		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Acenaphthylene	ug/l							0.111U		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Anthracene	ug/l							0.0667J		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Benzo(a)anthracene	ug/l							0.111U		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Benzo(a)pyrene	ug/l							0.111U		0.1UJ								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l							0.111U		0.1UJ								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l							0.111U		0.1UJ								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l							0.111U		0.1UJ								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l															5.2U	0.328J	0.5U
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Chrysene	ug/l							0.111U		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l							0.111U		0.1UJ								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Fluoranthene	ug/l							0.114J		0.154								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Fluorene	ug/l							1.18J		0.327								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l							0.111U		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Naphthalene	ug/l							0.111U		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Phenanthrene	ug/l							0.2J		0.1U								
SWMU 17	R-1 (03-004)	Groundwater	SVOA	Pyrene	ug/l							0.114J		0.173								
SWMU 17	R-1 (03-004)	Groundwater	TPH	DRO	ug/l							15100	2870	3730						1200	1590	1040J
SWMU 17	R-1 (03-004)	Groundwater	TPH	GRO	ug/l							50U	57.4									
SWMU 17	R-1 (03-004)	Groundwater	TPH	RRO	ug/l							750U								340	240J	
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,1,1-Trichloroethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,1,2-Trichloroethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,1-Dichloroethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,1-Dichloroethene	ug/l							1U								2U		
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,1-Dichloropropene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2,3-Trichloropropane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l							1.18										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l							5U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2-Dibromoethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2-Dichlorobenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2-Dichloroethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,2-Dichloropropane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,3-Dichlorobenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,3-Dichloropropane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	1,4-Dichlorobenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	2,2-Dichloropropane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	2-Butanone	ug/l							10U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	2-Chlorotoluene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	2-Hexanone	ug/l							10U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	4-Chlorotoluene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	4-Isopropyltoluene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	4-Methyl-2-pentanone	ug/l							10U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Acetone	ug/l							25U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Benzene	ug/l							1.01	0.586									
SWMU 17	R-1 (03-004)	Groundwater	VOA	Bromobenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Bromochloromethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Bromodichloromethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Bromoform	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Bromomethane	ug/l							2U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Carbon disulfide	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Carbon tetrachloride	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Chlorobenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Chloroethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Chloroform	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Chloromethane	ug/l							5U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l							1U								2U		
SWMU 17	R-1 (03-004)	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Dibromochloromethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Dibromomethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Ethylbenzene	ug/l							2.06	0.5U									

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	R-1 (03-004)	Groundwater	VOA	Hexachlorobutadiene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Isopropylbenzene	ug/l							1J										
SWMU 17	R-1 (03-004)	Groundwater	VOA	m,p-Xylene	ug/l							2.56										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Methylene chloride	ug/l							5U								5U		
SWMU 17	R-1 (03-004)	Groundwater	VOA	Naphthalene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	n-Butylbenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	n-Propylbenzene	ug/l							0.604J										
SWMU 17	R-1 (03-004)	Groundwater	VOA	o-Xylene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	sec-Butylbenzene	ug/l							1.48										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Styrene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	tert-Butylbenzene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Tetrachloroethene	ug/l							1U								2U		
SWMU 17	R-1 (03-004)	Groundwater	VOA	Toluene	ug/l							0.5U	0.5U									
SWMU 17	R-1 (03-004)	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l							1U								2U		
SWMU 17	R-1 (03-004)	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Trichloroethene	ug/l							1U								2U		
SWMU 17	R-1 (03-004)	Groundwater	VOA	Trichlorofluoromethane	ug/l							1U										
SWMU 17	R-1 (03-004)	Groundwater	VOA	Vinyl chloride	ug/l							1U								2UJ		
SWMU 17	R-1 (03-004)	Groundwater	VOA	Xylenes	ug/l							1U	1J									
SWMU 17	R-3	Groundwater	TPH	DRO	ug/l							2930	497									
SWMU 17	R-3	Groundwater	TPH	GRO	ug/l							50U	50U									
SWMU 17	R-3	Groundwater	TPH	RRO	ug/l							750U										
SWMU 17	R-3	Groundwater	VOA	Benzene	ug/l							0.413	0.358									
SWMU 17	R-3	Groundwater	VOA	Ethylbenzene	ug/l							0.5U	0.5U									
SWMU 17	R-3	Groundwater	VOA	Toluene	ug/l							0.5U	0.5U									
SWMU 17	R-3	Groundwater	VOA	Xylenes	ug/l							1U	1U									
SWMU 17	R-6 (03-006)	Groundwater	SVOA	2-Methylnaphthalene	ug/l													0.073J				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Acenaphthene	ug/l							21J						0.29				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Acenaphthylene	ug/l							20U						0.094				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Anthracene	ug/l							20U						0.31U				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Benzo(a)anthracene	ug/l							20U						0.073				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Benzo(a)pyrene	ug/l							20U						0.1				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l							20U						0.13				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l							20U						0.13				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l							20U						0.1				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l															5.3U	0.385J	0.399J
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Chrysene	ug/l							20U						0.052				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l							20U						0.16U				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Fluoranthene	ug/l							20U						0.052U				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Fluorene	ug/l							83.9J						0.65				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l							20U						0.21U				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Naphthalene	ug/l							214J						1.4				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Phenanthrene	ug/l							101J						0.083				
SWMU 17	R-6 (03-006)	Groundwater	SVOA	Pyrene	ug/l							20U						0.052U				
SWMU 17	R-6 (03-006)	Groundwater	TPH	DRO	ug/l							496000	134000J							12000	3850	4740J
SWMU 17	R-6 (03-006)	Groundwater	TPH	GRO	ug/l							445	346J									
SWMU 17	R-6 (03-006)	Groundwater	TPH	RRO	ug/l							75800U								970	500U	
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1,1-Trichloroethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1,2-Trichloroethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1-Dichloroethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1-Dichloroethene	ug/l							1U						2U		2U		
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,1-Dichloropropene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2,3-Trichloropropane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l							180J						0.49J				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l							5U						10U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2-Dibromoethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2-Dichlorobenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2-Dichloroethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,2-Dichloropropane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l							18.4J						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,3-Dichlorobenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,3-Dichloropropane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	1,4-Dichlorobenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	2,2-Dichloropropane	ug/l							1U										
SWMU 17	R-6 (03-006)	Groundwater	VOA	2-Butanone	ug/l							14.7U						50U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l													10U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	2-Chlorotoluene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	2-Hexanone	ug/l							10U						20U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	4-Chlorotoluene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	4-Isopropyltoluene	ug/l							14.2J						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	4-Methyl-2-pentanone	ug/l							1.71J						20U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Acetone	ug/l							25U						50U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Acrylonitrile	ug/l													10U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Benzene	ug/l							2.84	1.16					2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Bromobenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Bromochloromethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Bromodichloromethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Bromoform	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Bromomethane	ug/l							2U						5U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Carbon disulfide	ug/l							0.612J						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Carbon tetrachloride	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Chlorobenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Chloroethane	ug/l							1U						5U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Chloroform	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Chloromethane	ug/l							5U						5U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l							1U						2U		2U		

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 17	R-6 (03-006)	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Dibromochloromethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Dibromomethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1U						5U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Ethylbenzene	ug/l							24	10.4					2.7				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Hexachlorobutadiene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Iodomethane	ug/l													5U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Isopropylbenzene	ug/l							10.8J						1.4J				
SWMU 17	R-6 (03-006)	Groundwater	VOA	m,p-Xylene	ug/l							15.8J						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Methylene chloride	ug/l							5U						5U		5U		
SWMU 17	R-6 (03-006)	Groundwater	VOA	Naphthalene	ug/l							108J						0.92J				
SWMU 17	R-6 (03-006)	Groundwater	VOA	n-Butylbenzene	ug/l							48.5J						2.5				
SWMU 17	R-6 (03-006)	Groundwater	VOA	n-Propylbenzene	ug/l							21.9J						2.2				
SWMU 17	R-6 (03-006)	Groundwater	VOA	o-Xylene	ug/l							1.47						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	sec-Butylbenzene	ug/l							9.6J						1.3J				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Styrene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	tert-Butylbenzene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Tetrachloroethene	ug/l							1U						2U		2U		
SWMU 17	R-6 (03-006)	Groundwater	VOA	Toluene	ug/l							0.743J	1.79J					2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l							1U						2U		2U		
SWMU 17	R-6 (03-006)	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Trichloroethene	ug/l							1U						2U		2U		
SWMU 17	R-6 (03-006)	Groundwater	VOA	Trichlorofluoromethane	ug/l							1U						2U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Vinyl acetate	ug/l													5U				
SWMU 17	R-6 (03-006)	Groundwater	VOA	Vinyl chloride	ug/l							1U						2U		2UJ		
SWMU 17	R-6 (03-006)	Groundwater	VOA	Xylenes	ug/l							20.4	8.62J									
SWMU 55	55-145	Groundwater	DIN	Aluminum	ug/l									2.5U				5.25				
SWMU 55	55-145	Groundwater	DIN	Antimony	ug/l									0.5U				0.853		0.712		
SWMU 55	55-145	Groundwater	DIN	Arsenic	ug/l									2U				0.402				
SWMU 55	55-145	Groundwater	DIN	Barium	ug/l									1U				0.733				
SWMU 55	55-145	Groundwater	DIN	Beryllium	ug/l									0.5U				0.15U				
SWMU 55	55-145	Groundwater	DIN	Cadmium	ug/l									2U				0.2U				
SWMU 55	55-145	Groundwater	DIN	Calcium	ug/l									41700				31800				
SWMU 55	55-145	Groundwater	DIN	Chromium	ug/l									1U				0.173				
SWMU 55	55-145	Groundwater	DIN	Cobalt	ug/l									0.4U				0.5U				
SWMU 55	55-145	Groundwater	DIN	Copper	ug/l									3U				1.05				
SWMU 55	55-145	Groundwater	DIN	Iron	ug/l									1000U				50U				
SWMU 55	55-145	Groundwater	DIN	Lead	ug/l									0.3U				0.1U				
SWMU 55	55-145	Groundwater	DIN	Magnesium	ug/l									8720				5240				
SWMU 55	55-145	Groundwater	DIN	Manganese	ug/l									18.4				9.66				
SWMU 55	55-145	Groundwater	DIN	Mercury	ug/l									0.2U								
SWMU 55	55-145	Groundwater	DIN	Nickel	ug/l									1U				1.52				
SWMU 55	55-145	Groundwater	DIN	Potassium	ug/l									2290				2080				
SWMU 55	55-145	Groundwater	DIN	Selenium	ug/l									2.5U				0.5U				
SWMU 55	55-145	Groundwater	DIN	Silver	ug/l									1U				0.127				
SWMU 55	55-145	Groundwater	DIN	Sodium	ug/l													17200				
SWMU 55	55-145	Groundwater	DIN	Thallium	ug/l									0.578				0.05U				
SWMU 55	55-145	Groundwater	DIN	Vanadium	ug/l									10U				5U				
SWMU 55	55-145	Groundwater	DIN	Zinc	ug/l									10U				10.6				
SWMU 55	55-145	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									30U								
SWMU 55	55-145	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									220U								
SWMU 55	55-145	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2-Chloronaphthalene	ug/l									30U								
SWMU 55	55-145	Groundwater	SVOA	2-Chlorophenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2-Methylnaphthalene	ug/l									30U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	2-Methylphenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2-Nitroaniline	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	2-Nitrophenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	3-Nitroaniline	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									220U								
SWMU 55	55-145	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	4-Chloroaniline	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	4-Nitroaniline	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	4-Nitrophenol	ug/l									170U								
SWMU 55	55-145	Groundwater	SVOA	Acenaphthene	ug/l									30U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Acenaphthylene	ug/l									24U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Aniline	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Anthracene	ug/l									24U				0.306U		0.31U		
SWMU 55	55-145	Groundwater	SVOA	Azobenzene	ug/l									240U								
SWMU 55	55-145	Groundwater	SVOA	Benzo(a)anthracene	ug/l									24U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Benzo(a)pyrene	ug/l									24U				0.0643U		0.064U		
SWMU 55	55-145	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									24U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									30U				0.0918U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									30U				0.102U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Benzoic acid	ug/l									61U								
SWMU 55	55-145	Groundwater	SVOA	Benzyl alcohol	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									30U								

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 55	55-145	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									24U						2.6U	0.5U	
SWMU 55	55-145	Groundwater	SVOA	Butylbenzylphthalate	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Chrysene	ug/l									24U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Cresols	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									30U				0.153U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Dibenzofuran	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Diethylphthalate	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Dimethylphthalate	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Di-n-butylphthalate	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Di-n-octylphthalate	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Fluoranthene	ug/l									24U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Fluorene	ug/l									24U				0.122U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Hexachlorobenzene	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Hexachlorobutadiene	ug/l									37U								
SWMU 55	55-145	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									37U								
SWMU 55	55-145	Groundwater	SVOA	Hexachloroethane	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									24U				0.204U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Isophorone	ug/l									30U								
SWMU 55	55-145	Groundwater	SVOA	Naphthalene	ug/l									24U				0.245U		0.24U		
SWMU 55	55-145	Groundwater	SVOA	Nitrobenzene	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									24U								
SWMU 55	55-145	Groundwater	SVOA	Pentachlorophenol	ug/l									170U								
SWMU 55	55-145	Groundwater	SVOA	Phenanthrene	ug/l									24U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	SVOA	Phenol	ug/l									12U								
SWMU 55	55-145	Groundwater	SVOA	Pyrene	ug/l									24U				0.051U		0.051U		
SWMU 55	55-145	Groundwater	TIN	Aluminum	ug/l									200U				214				
SWMU 55	55-145	Groundwater	TIN	Antimony	ug/l									1U				0.736				
SWMU 55	55-145	Groundwater	TIN	Arsenic	ug/l									5U				1U				
SWMU 55	55-145	Groundwater	TIN	Barium	ug/l									3U				1.39				
SWMU 55	55-145	Groundwater	TIN	Beryllium	ug/l									1U				0.5U				
SWMU 55	55-145	Groundwater	TIN	Cadmium	ug/l									2U				0.2U				
SWMU 55	55-145	Groundwater	TIN	Calcium	ug/l									41000				25300				
SWMU 55	55-145	Groundwater	TIN	Chromium	ug/l									6U				0.24				
SWMU 55	55-145	Groundwater	TIN	Cobalt	ug/l									0.8U				0.135				
SWMU 55	55-145	Groundwater	TIN	Copper	ug/l									6U				1.12				
SWMU 55	55-145	Groundwater	TIN	Iron	ug/l									1000U				256				
SWMU 55	55-145	Groundwater	TIN	Lead	ug/l									2U				0.15U				
SWMU 55	55-145	Groundwater	TIN	Magnesium	ug/l									8250				5320				
SWMU 55	55-145	Groundwater	TIN	Manganese	ug/l									30.7				31.5				
SWMU 55	55-145	Groundwater	TIN	Mercury	ug/l									0.2U				0.2U				
SWMU 55	55-145	Groundwater	TIN	Nickel	ug/l									2U				1.13				
SWMU 55	55-145	Groundwater	TIN	Potassium	ug/l									2230				2000				
SWMU 55	55-145	Groundwater	TIN	Selenium	ug/l									5U				0.5U				
SWMU 55	55-145	Groundwater	TIN	Silver	ug/l									2U				0.35U				
SWMU 55	55-145	Groundwater	TIN	Sodium	ug/l													17100				
SWMU 55	55-145	Groundwater	TIN	Thallium	ug/l									1U				0.25U				
SWMU 55	55-145	Groundwater	TIN	Vanadium	ug/l									20U				1.33				
SWMU 55	55-145	Groundwater	TIN	Zinc	ug/l									25U				8.71				
SWMU 55	55-145	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U		4U	1U	1U
SWMU 55	55-145	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U		20U		
SWMU 55	55-145	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	2-Butanone	ug/l									50U				50U		100U		
SWMU 55	55-145	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U		20U		
SWMU 55	55-145	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	2-Hexanone	ug/l									10U				20U		40U		
SWMU 55	55-145	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U		40U		
SWMU 55	55-145	Groundwater	VOA	Acetone	ug/l													50U		7.1J		
SWMU 55	55-145	Groundwater	VOA	Acrylonitrile	ug/l													10U		20U		
SWMU 55	55-145	Groundwater	VOA	Benzene	ug/l									0.5U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Bromobenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Bromoform	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Bromomethane	ug/l									2U				5U		10U		
SWMU 55	55-145	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U		4U		

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 55	55-145	Groundwater	VOA	Chloroethane	ug/l									1U				5U		10U		
SWMU 55	55-145	Groundwater	VOA	Chloroform	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Chloromethane	ug/l									1U				5U		10U		
SWMU 55	55-145	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U				2U		4U	1U	1U
SWMU 55	55-145	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Dibromomethane	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U		10U		
SWMU 55	55-145	Groundwater	VOA	Ethylbenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Iodomethane	ug/l													5U		10U		
SWMU 55	55-145	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	m,p-Xylene	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		4U		
SWMU 55	55-145	Groundwater	VOA	Methylene chloride	ug/l									5U				5U		10U	5U	2U
SWMU 55	55-145	Groundwater	VOA	Naphthalene	ug/l									2U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	n-Butylbenzene	ug/l									1.02				2U		4U		
SWMU 55	55-145	Groundwater	VOA	n-Propylbenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	o-Xylene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Styrene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Tetrachloroethene	ug/l									180				130		170	112	90.3
SWMU 55	55-145	Groundwater	VOA	Toluene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U				2U		4U	1U	1U
SWMU 55	55-145	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U		20U		
SWMU 55	55-145	Groundwater	VOA	Trichloroethene	ug/l									1U				2U		4U	0.3J	1U
SWMU 55	55-145	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U		4U		
SWMU 55	55-145	Groundwater	VOA	Vinyl acetate	ug/l													5U		10U		
SWMU 55	55-145	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U		4UJ	1U	1U
SWMU 55	55-146	Groundwater	DIN	Aluminum	ug/l									54				21.6				
SWMU 55	55-146	Groundwater	DIN	Antimony	ug/l									0.5U				0.1U		0.235		
SWMU 55	55-146	Groundwater	DIN	Arsenic	ug/l									4.64				3.04				
SWMU 55	55-146	Groundwater	DIN	Barium	ug/l									23.4				125				
SWMU 55	55-146	Groundwater	DIN	Beryllium	ug/l									0.5U				0.15U				
SWMU 55	55-146	Groundwater	DIN	Cadmium	ug/l									2U				0.2U				
SWMU 55	55-146	Groundwater	DIN	Calcium	ug/l									26000				26700				
SWMU 55	55-146	Groundwater	DIN	Chromium	ug/l									8.46				2.33				
SWMU 55	55-146	Groundwater	DIN	Cobalt	ug/l									0.4U				0.5U				
SWMU 55	55-146	Groundwater	DIN	Copper	ug/l									3U				0.723				
SWMU 55	55-146	Groundwater	DIN	Iron	ug/l									71300				26800				
SWMU 55	55-146	Groundwater	DIN	Lead	ug/l									0.3U				0.108				
SWMU 55	55-146	Groundwater	DIN	Magnesium	ug/l									28100				26300				
SWMU 55	55-146	Groundwater	DIN	Manganese	ug/l									3230				2170				
SWMU 55	55-146	Groundwater	DIN	Mercury	ug/l									0.2U								
SWMU 55	55-146	Groundwater	DIN	Nickel	ug/l									1U				1.24				
SWMU 55	55-146	Groundwater	DIN	Potassium	ug/l									7150				5650				
SWMU 55	55-146	Groundwater	DIN	Selenium	ug/l									8.24				1.36				
SWMU 55	55-146	Groundwater	DIN	Silver	ug/l									1U				0.1U				
SWMU 55	55-146	Groundwater	DIN	Sodium	ug/l													60100				
SWMU 55	55-146	Groundwater	DIN	Thallium	ug/l									0.5U				0.05U				
SWMU 55	55-146	Groundwater	DIN	Vanadium	ug/l									10U				5U				
SWMU 55	55-146	Groundwater	DIN	Zinc	ug/l									10U				76.4				
SWMU 55	55-146	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l									30U								
SWMU 55	55-146	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2,4-Dichlorophenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2,4-Dimethylphenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2,4-Dinitrophenol	ug/l									220U								
SWMU 55	55-146	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2-Chloronaphthalene	ug/l									30U								
SWMU 55	55-146	Groundwater	SVOA	2-Chlorophenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2-Methylnaphthalene	ug/l									30U				0.051U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	2-Methylphenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2-Nitroaniline	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	2-Nitrophenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	3-Nitroaniline	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l									220U								
SWMU 55	55-146	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	4-Chloroaniline	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	4-Nitroaniline	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	4-Nitrophenol	ug/l									170U								
SWMU 55	55-146	Groundwater	SVOA	Acenaphthene	ug/l									30U				0.14		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Acenaphthylene	ug/l									24U				0.051U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Aniline	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Anthracene	ug/l									24U				0.31U		0.32U		
SWMU 55	55-146	Groundwater	SVOA	Azobenzene	ug/l									240U								
SWMU 55	55-146	Groundwater	SVOA	Benzo(a)anthracene	ug/l									24U				0.051U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Benzo(a)pyrene	ug/l									24U				0.064U		0.066U		
SWMU 55	55-146	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									24U				0.051U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									30U				0.092U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									30U				0.1U		0.053U		

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SWMU 55	55-146	Groundwater	SVOA	Benzoic acid	ug/l									61U								
SWMU 55	55-146	Groundwater	SVOA	Benzyl alcohol	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l									30U								
SWMU 55	55-146	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l									24U							0.5U	0.603J
SWMU 55	55-146	Groundwater	SVOA	Butylbenzylphthalate	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Chrysene	ug/l									24U				0.051U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Cresols	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									30U				0.15U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Dibenzofuran	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Diethylphthalate	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Dimethylphthalate	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Di-n-butylphthalate	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Di-n-octylphthalate	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Fluoranthene	ug/l									24U				0.061		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Fluorene	ug/l									24U				0.12U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Hexachlorobenzene	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Hexachlorobutadiene	ug/l									37U								
SWMU 55	55-146	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l									37U								
SWMU 55	55-146	Groundwater	SVOA	Hexachloroethane	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									24U				0.2U		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Isophorone	ug/l									30U								
SWMU 55	55-146	Groundwater	SVOA	Naphthalene	ug/l									24U				0.24U		0.25U		
SWMU 55	55-146	Groundwater	SVOA	Nitrobenzene	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l									24U								
SWMU 55	55-146	Groundwater	SVOA	Pentachlorophenol	ug/l									170U								
SWMU 55	55-146	Groundwater	SVOA	Phenanthrene	ug/l									24U				0.11		0.053U		
SWMU 55	55-146	Groundwater	SVOA	Phenol	ug/l									12U								
SWMU 55	55-146	Groundwater	SVOA	Pyrene	ug/l									24U				0.051U		0.053U		
SWMU 55	55-146	Groundwater	TIN	Aluminum	ug/l									200U				98.3				
SWMU 55	55-146	Groundwater	TIN	Antimony	ug/l									1U				0.5U				
SWMU 55	55-146	Groundwater	TIN	Arsenic	ug/l									5.9				3.51				
SWMU 55	55-146	Groundwater	TIN	Barium	ug/l									22.9				17.8				
SWMU 55	55-146	Groundwater	TIN	Beryllium	ug/l									1U				0.5U				
SWMU 55	55-146	Groundwater	TIN	Cadmium	ug/l									2U				0.2U				
SWMU 55	55-146	Groundwater	TIN	Calcium	ug/l									25900				26900				
SWMU 55	55-146	Groundwater	TIN	Chromium	ug/l									6.88				0.317				
SWMU 55	55-146	Groundwater	TIN	Cobalt	ug/l									0.8U				0.263				
SWMU 55	55-146	Groundwater	TIN	Copper	ug/l									6U				1.2				
SWMU 55	55-146	Groundwater	TIN	Iron	ug/l									71300				27300				
SWMU 55	55-146	Groundwater	TIN	Lead	ug/l									2U				0.243				
SWMU 55	55-146	Groundwater	TIN	Magnesium	ug/l									27900				24600				
SWMU 55	55-146	Groundwater	TIN	Manganese	ug/l									3330				2030				
SWMU 55	55-146	Groundwater	TIN	Mercury	ug/l									0.2U				0.2U				
SWMU 55	55-146	Groundwater	TIN	Nickel	ug/l									2U				1.11				
SWMU 55	55-146	Groundwater	TIN	Potassium	ug/l									7190				5500				
SWMU 55	55-146	Groundwater	TIN	Selenium	ug/l									11.8				1.21				
SWMU 55	55-146	Groundwater	TIN	Silver	ug/l									2U				0.35U				
SWMU 55	55-146	Groundwater	TIN	Sodium	ug/l													61000				
SWMU 55	55-146	Groundwater	TIN	Thallium	ug/l									1U				0.25U				
SWMU 55	55-146	Groundwater	TIN	Vanadium	ug/l									20U				3.18				
SWMU 55	55-146	Groundwater	TIN	Zinc	ug/l									25U				32.9				
SWMU 55	55-146	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l													2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U				2U		2U	1U	
SWMU 55	55-146	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									2.5U				10U		10U		
SWMU 55	55-146	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2-Dichloroethane	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,2-Dichloropropane	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	2-Butanone	ug/l									50U				50U		50U		
SWMU 55	55-146	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10U				10U		10U		
SWMU 55	55-146	Groundwater	VOA	2-Chlorotoluene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	2-Hexanone	ug/l									10U				20U		20U		
SWMU 55	55-146	Groundwater	VOA	4-Chlorotoluene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	4-Isopropyltoluene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U				20U		20U		
SWMU 55	55-146	Groundwater	VOA	Acetone	ug/l													690		3.4J		
SWMU 55	55-146	Groundwater	VOA	Acrylonitrile	ug/l													10U		10U		
SWMU 55	55-146	Groundwater	VOA	Benzene	ug/l									0.5U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Bromobenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Bromochloromethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Bromodichloromethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Bromoform	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Bromomethane	ug/l									2U				5U		5U		

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SWMU 55	55-146	Groundwater	VOA	Carbon disulfide	ug/l									10U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Carbon tetrachloride	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Chlorobenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Chloroethane	ug/l									1U				5U		5U		
SWMU 55	55-146	Groundwater	VOA	Chloroform	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Chloromethane	ug/l									1U				5U		5U		
SWMU 55	55-146	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									8.9				1.2J		2U	0.19J	
SWMU 55	55-146	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Dibromochloromethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Dibromomethane	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U				5U		5U		
SWMU 55	55-146	Groundwater	VOA	Ethylbenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Hexachlorobutadiene	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Iodomethane	ug/l													5U		5U		
SWMU 55	55-146	Groundwater	VOA	Isopropylbenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	m,p-Xylene	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l													2U		2U		
SWMU 55	55-146	Groundwater	VOA	Methylene chloride	ug/l									5U				5U		0.54U	5U	2U
SWMU 55	55-146	Groundwater	VOA	Naphthalene	ug/l									2U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	n-Butylbenzene	ug/l									1.02				2U		2U		
SWMU 55	55-146	Groundwater	VOA	n-Propylbenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	o-Xylene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	sec-Butylbenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Styrene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	tert-Butylbenzene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Tetrachloroethene	ug/l									1U				2U		0.79J	0.15J	
SWMU 55	55-146	Groundwater	VOA	Toluene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									2.88				2U		2U	1U	
SWMU 55	55-146	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l													10U		10U		
SWMU 55	55-146	Groundwater	VOA	Trichloroethene	ug/l									1U				2U		2U	1U	1U
SWMU 55	55-146	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U				2U		2U		
SWMU 55	55-146	Groundwater	VOA	Vinyl acetate	ug/l													5U		5U		
SWMU 55	55-146	Groundwater	VOA	Vinyl chloride	ug/l									2U				2U		2UJ	1U	
SWMU 58/SA 73	12-114	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												25J					
SWMU 58/SA 73	12-114	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												17J					
SWMU 58/SA 73	12-114	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												7.3J					
SWMU 58/SA 73	12-114	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												230					
SWMU 58/SA 73	12-114	Groundwater	TPH	DRO	ug/l												9400					2080J
SWMU 58/SA 73	12-114	Groundwater	TPH	GRO	ug/l												230					80U
SWMU 58/SA 73	12-114	Groundwater	VOA	Benzene	ug/l												2.4					0.5U
SWMU 58/SA 73	12-114	Groundwater	VOA	Ethylbenzene	ug/l												9.5					0.79
SWMU 58/SA 73	12-114	Groundwater	VOA	Toluene	ug/l												1U					0.5U
SWMU 58/SA 73	12-114	Groundwater	VOA	Xylenes	ug/l												40					1.07
SWMU 58/SA 73	12-120	Groundwater	TPH	DRO	ug/l												1300					1540
SWMU 58/SA 73	12-120	Groundwater	TPH	GRO	ug/l												100					56J
SWMU 58/SA 73	12-120	Groundwater	VOA	Benzene	ug/l												1U					0.5U
SWMU 58/SA 73	12-120	Groundwater	VOA	Ethylbenzene	ug/l												7.2					8.16
SWMU 58/SA 73	12-120	Groundwater	VOA	Toluene	ug/l												1U					0.2J
SWMU 58/SA 73	12-120	Groundwater	VOA	Xylenes	ug/l												6.7					5.99
SWMU 58/SA 73	12-121	Groundwater	TPH	DRO	ug/l												19000					14300
SWMU 58/SA 73	12-121	Groundwater	TPH	GRO	ug/l												260					120
SWMU 58/SA 73	12-121	Groundwater	VOA	Benzene	ug/l												0.56J					0.47J
SWMU 58/SA 73	12-121	Groundwater	VOA	Ethylbenzene	ug/l												8.4					6.68
SWMU 58/SA 73	12-121	Groundwater	VOA	Toluene	ug/l												1U					0.25J
SWMU 58/SA 73	12-121	Groundwater	VOA	Xylenes	ug/l												8.8					6.46
SWMU 58/SA 73	12-124	Groundwater	TPH	DRO	ug/l												5600					
SWMU 58/SA 73	12-124	Groundwater	TPH	GRO	ug/l												230					
SWMU 58/SA 73	12-125	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												59J					
SWMU 58/SA 73	12-125	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												130					
SWMU 58/SA 73	12-125	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												33J					
SWMU 58/SA 73	12-125	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												22					
SWMU 58/SA 73	12-125	Groundwater	TPH	DRO	ug/l												2800					
SWMU 58/SA 73	12-125	Groundwater	TPH	GRO	ug/l												55					
SWMU 58/SA 73	12-125	Groundwater	VOA	Benzene	ug/l												0.9J					
SWMU 58/SA 73	12-125	Groundwater	VOA	Ethylbenzene	ug/l												1.8					
SWMU 58/SA 73	12-125	Groundwater	VOA	Toluene	ug/l												0.5J					
SWMU 58/SA 73	12-125	Groundwater	VOA	Xylenes	ug/l												2.1J					
SWMU 58/SA 73	12-126	Groundwater	TPH	DRO	ug/l												5000					
SWMU 58/SA 73	12-126	Groundwater	TPH	GRO	ug/l												100					
SWMU 58/SA 73	12-126	Groundwater	VOA	Benzene	ug/l												1U					
SWMU 58/SA 73	12-126	Groundwater	VOA	Ethylbenzene	ug/l												5.9					
SWMU 58/SA 73	12-126	Groundwater	VOA	Toluene	ug/l												1					
SWMU 58/SA 73	12-126	Groundwater	VOA	Xylenes	ug/l												8					
SWMU 58/SA 73	12-201	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												67J					
SWMU 58/SA 73	12-201	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												170					
SWMU 58/SA 73	12-201	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												870					
SWMU 58/SA 73	12-201	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												450					
SWMU 58/SA 73	12-201	Groundwater	TPH	DRO	ug/l												920					
SWMU 58/SA 73	12-201	Groundwater	TPH	GRO	ug/l												1300					
SWMU 58/SA 73	12-201	Groundwater	VOA	Benzene	ug/l												2.4					
SWMU 58/SA 73	12-201	Groundwater	VOA	Ethylbenzene	ug/l												50					
SWMU 58/SA 73	12-201	Groundwater	VOA	Toluene	ug/l												10					
SWMU 58/SA 73	12-201	Groundwater	VOA	Xylenes	ug/l												210					
SWMU 58/SA 73	12-203	Groundwater	TPH	DRO	ug/l																51900J	Product
SWMU 58/SA 73	12-203	Groundwater	TPH	GRO	ug/l																176	Product
SWMU 58/SA 73	12-203	Groundwater	VOA	Benzene	ug/l																1.33	Product
SWMU 58/SA 73	12-203	Groundwater	VOA	Ethylbenzene	ug/l																9.36	Product
SWMU 58/SA 73	12-203	Groundwater	VOA	Toluene	ug/l																0.2J	Product
SWMU 58/SA 73	12-203	Groundwater	VOA	Xylenes	ug/l																10.1	Product
SWMU 58/SA 73	12-601	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	96J	130J			81U											

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 58/SA 73	12-601	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	120J	120J			81U											
SWMU 58/SA 73	12-601	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	120J	60UJ														
SWMU 58/SA 73	12-601	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80UJ	80UJ														
SWMU 58/SA 73	12-601	Groundwater	TPH	C6-C9 Aliphatics	ug/l	23	20U	20U			20U											
SWMU 58/SA 73	12-601	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SWMU 58/SA 73	12-601	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
SWMU 58/SA 73	12-601	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
SWMU 58/SA 73	12-601	Groundwater	TPH	DRO	ug/l		220J	250J			160U							160U		56J	250U	240U
SWMU 58/SA 73	12-601	Groundwater	TPH	GRO	ug/l	24	20U	20U			20U		90U					9.5J		11U	80U	80U
SWMU 58/SA 73	12-601	Groundwater	TPH	RRO	ug/l													210J				
SWMU 58/SA 73	12-601	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U		0.5U					1U		2U	0.5U	0.5U
SWMU 58/SA 73	12-601	Groundwater	VOA	BTEX (total)	ug/l	0.43																
SWMU 58/SA 73	12-601	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U			0.2U		2U					1U		2U	0.5U	0.5U
SWMU 58/SA 73	12-601	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U			0.4U		2U							2U		
SWMU 58/SA 73	12-601	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SWMU 58/SA 73	12-601	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2UJ		2U							2U		
SWMU 58/SA 73	12-601	Groundwater	VOA	Toluene	ug/l	0.43	0.39	0.3U			0.3U		2U					1U		2U	0.5U	0.5U
SWMU 58/SA 73	12-601	Groundwater	VOA	Xylenes	ug/l													3U			0.34J	1U
SWMU 58/SA 73	12-601	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SWMU 58/SA 73	12-604	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80UJ	82UJ		80UJ												
SWMU 58/SA 73	12-604	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	99J	82UJ		80UJ												
SWMU 58/SA 73	12-604	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	61UJ														
SWMU 58/SA 73	12-604	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80UJ	82UJ														
SWMU 58/SA 73	12-604	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20U	20U		20U												
SWMU 58/SA 73	12-604	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SWMU 58/SA 73	12-604	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l								90U									
SWMU 58/SA 73	12-604	Groundwater	TPH	GRO - Aromatic Fraction	ug/l								30U									
SWMU 58/SA 73	12-604	Groundwater	TPH	DRO	ug/l		160UJ	160UJ		160UJ								100J		81J	250U	240U
SWMU 58/SA 73	12-604	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U			90U					6.3J		13U	80U	80U
SWMU 58/SA 73	12-604	Groundwater	TPH	RRO	ug/l													170J				
SWMU 58/SA 73	12-604	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U			0.5U					1U		2U	0.5U	0.5U
SWMU 58/SA 73	12-604	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SWMU 58/SA 73	12-604	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U			2U					1U		2U	0.5U	0.5U
SWMU 58/SA 73	12-604	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U			2U							2U		
SWMU 58/SA 73	12-604	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SWMU 58/SA 73	12-604	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U			2U							2U		
SWMU 58/SA 73	12-604	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U			2U					1U		2U	0.5U	0.5U
SWMU 58/SA 73	12-604	Groundwater	VOA	Xylenes	ug/l													3U			1U	1U
SWMU 58/SA 73	12-604	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SWMU 58/SA 73	12-611	Groundwater	TPH	DRO	ug/l															4000	4950	2750J
SWMU 58/SA 73	12-611	Groundwater	TPH	GRO	ug/l															690	616	591
SWMU 58/SA 73	12-611	Groundwater	VOA	Benzene	ug/l															25	24.6	25.2
SWMU 58/SA 73	12-611	Groundwater	VOA	Ethylbenzene	ug/l															23	17.9	21
SWMU 58/SA 73	12-611	Groundwater	VOA	m,p-Xylene	ug/l															130		
SWMU 58/SA 73	12-611	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SWMU 58/SA 73	12-611	Groundwater	VOA	o-Xylene	ug/l															1.19J		
SWMU 58/SA 73	12-611	Groundwater	VOA	Toluene	ug/l															2.3	1.7	1.99
SWMU 58/SA 73	12-611	Groundwater	VOA	Xylenes	ug/l																82.6	131
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	81J	78U		82U												
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	C10-C24 Aromatics	ug/l	614	540UJ	470J		660J												
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59UJ	58U														
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78UJ	78U														
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	C6-C9 Aliphatics	ug/l	720	730J	1100		790												
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	C6-C9 Aromatics	ug/l	270	290J	370		370												
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	DRO	ug/l		620UJ	490J		660J								1100		1800	2170	1500J
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	GRO	ug/l	990	1000J	1500		1200								830		740		
SWMU 60	LC5A (OLD 1)	Groundwater	TPH	RRO	ug/l													170J				
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	Benzene	ug/l	1U	0.48J	1.1J		1U										1.6J		
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	BTEX (total)	ug/l	81																
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	Ethylbenzene	ug/l	17	18J	25		23J										24		
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	m,p-Xylene	ug/l	64	67	96		90										69		
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	o-Xylene	ug/l	1U	1.1J	1.5J		1.2J										1.04J		
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	Toluene	ug/l	1.5U	2.2J	2.5J		1.6J										1.8J		
SWMU 60	LC5A (OLD 1)	Groundwater	VOA	Xylenes (total)	ug/l	64																
SWMU 60	LC6A (OLD 1)	Groundwater	TPH	DRO	ug/l								4130									
SWMU 60	LC6A (OLD 1)	Groundwater	TPH	GRO	ug/l								338J									
SWMU 60	LC6A (OLD 1)	Groundwater	VOA	Benzene	ug/l								1.69									
SWMU 60	LC6A (OLD 1)	Groundwater	VOA	Ethylbenzene	ug/l								12									
SWMU 60	LC6A (OLD 1)	Groundwater	VOA	Toluene	ug/l								0.62									
SWMU 60	LC6A (OLD 1)	Groundwater	VOA	Xylenes	ug/l								43.5									
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	79U	82U		82U												
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	110	82UJ		82UJ												
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59U	60UJ														
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	79U	80U														
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	C6-C9 Aliphatics	ug/l	190	160	190		230												
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	C6-C9 Aromatics	ug/l	24	20U	20U		20U												
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	DRO	ug/l		180	160U		160UJ			532U					710		47J		
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	GRO	ug/l	210	180	200		240			204					160		160		
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	TPH	RRO	ug/l								1060U					120J				
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	Benzene	ug/l	17	8.1	6.8		11			13.1							19	10.5	7.82
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	BTEX (total)	ug/l	21.54																
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	Ethylbenzene	ug/l	1.7NJ	0.88J	0.51J		0.23J			2U							2U	0.5U	0.73
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	m,p-Xylene	ug/l	2.2	1.2	0.8		1.2J			2U							2U		
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	o-Xylene	ug/l	0.64NJ	0.2U	0.2U		0.2U			2U							2U		
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U			2.23							2U	0.5U	0.19J
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	Xylenes	ug/l																1U	2.38
SWMU 60	MW E006,MW-006,AMW-006	Groundwater	VOA	Xylenes (total)	ug/l	2.84																
SWMU 60	MW E501	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	92J	79U		81UJ												
SWMU 60	MW E501	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	130UJ	79UJ		81UJ												

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Groundwater
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 60	MW E501	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60UJ	59U														
SWMU 60	MW E501	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80UJ	79U														
SWMU 60	MW E501	Groundwater	TPH	C6-C9 Aliphatics	ug/l	89	120J	120		180												
SWMU 60	MW E501	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	27	20U		20U												
SWMU 60	MW E501	Groundwater	TPH	DRO	ug/l		230UJ	160U		160UJ			556U					850		390		
SWMU 60	MW E501	Groundwater	TPH	GRO	ug/l	100	140	130		200			105					120		110		
SWMU 60	MW E501	Groundwater	TPH	RRO	ug/l								1110U					190J				
SWMU 60	MW E501	Groundwater	VOA	Benzene	ug/l	2.4	11	2.3		1.5			2.65							2.8		
SWMU 60	MW E501	Groundwater	VOA	BTEX (total)	ug/l	3.15																
SWMU 60	MW E501	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2		0.24J			2U							2U		
SWMU 60	MW E501	Groundwater	VOA	m,p-Xylene	ug/l	0.75	5.5J	0.69		1.4			2.63							1J		
SWMU 60	MW E501	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SWMU 60	MW E501	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.27J	0.2U		0.2U			2U							2U		
SWMU 60	MW E501	Groundwater	VOA	Toluene	ug/l	0.3U	0.44J	0.3U		0.3U			2U							2U		
SWMU 60	MW E501	Groundwater	VOA	Xylenes (total)	ug/l	0.75																
SWMU 61	14-113	Groundwater	TPH	GRO	ug/l															2000	6880J	3900J
SWMU 61	14-113	Groundwater	VOA	Benzene	ug/l															34	30.8J	22.7J
SWMU 61	14-113	Groundwater	VOA	Ethylbenzene	ug/l															150	54J	65.9J
SWMU 61	14-113	Groundwater	VOA	m,p-Xylene	ug/l															580		
SWMU 61	14-113	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															4U		
SWMU 61	14-113	Groundwater	VOA	o-Xylene	ug/l															2.74J		
SWMU 61	14-113	Groundwater	VOA	Toluene	ug/l															8.2	21.6J	11J
SWMU 61	14-113	Groundwater	VOA	Xylenes	ug/l																1290J	1590J
SWMU 61	14-210	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	76U	82U			83U											
SWMU 61	14-210	Groundwater	TPH	C10-C24 Aromatics	ug/l	215	380	82UJ			310											
SWMU 61	14-210	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	57U	62UJ														
SWMU 61	14-210	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	76U	82U														
SWMU 61	14-210	Groundwater	TPH	C6-C9 Aliphatics	ug/l	2100	3500	6800J			10000J											
SWMU 61	14-210	Groundwater	TPH	C6-C9 Aromatics	ug/l	1600	1500	2000			4000U											
SWMU 61	14-210	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									4290								
SWMU 61	14-210	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									1620								
SWMU 61	14-210	Groundwater	TPH	DRO	ug/l		450	160U			310			575U				200				
SWMU 61	14-210	Groundwater	TPH	GRO	ug/l	3700	5000	8800J			13000J			5900				2300		3300	5220J	3560
SWMU 61	14-210	Groundwater	TPH	RRO	ug/l									1150U				110J				
SWMU 61	14-210	Groundwater	VOA	Benzene	ug/l	2U	4U	4U			0.2U			17.4				4		10U	0.5U	1U
SWMU 61	14-210	Groundwater	VOA	BTEX (total)	ug/l	4U																
SWMU 61	14-210	Groundwater	VOA	Ethylbenzene	ug/l	2U	4U	4U			1J			2.31				2U		3.5J	0.12J	0.24J
SWMU 61	14-210	Groundwater	VOA	m,p-Xylene	ug/l	4U	8U	8U			1.9J			3.99						21		
SWMU 61	14-210	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															10U		
SWMU 61	14-210	Groundwater	VOA	o-Xylene	ug/l	2U	4U	4U			0.2UJ			2.24						10U		
SWMU 61	14-210	Groundwater	VOA	Toluene	ug/l	3U	6U	6U			0.3U			3.65				1.1J		4.1J	0.5U	1U
SWMU 61	14-210	Groundwater	VOA	Xylenes	ug/l													3.1J			0.55J	4.94J
SWMU 61	14-210	Groundwater	VOA	Xylenes (total)	ug/l	4U																
SWMU 61	TFB-MW-4A	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78U	76U			85U											
SWMU 61	TFB-MW-4A	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	160	76UJ			85UJ											
SWMU 61	TFB-MW-4A	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	57UJ														
SWMU 61	TFB-MW-4A	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	76U														
SWMU 61	TFB-MW-4A	Groundwater	TPH	C6-C9 Aliphatics	ug/l	23	20U	20U			20											
SWMU 61	TFB-MW-4A	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SWMU 61	TFB-MW-4A	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 61	TFB-MW-4A	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 61	TFB-MW-4A	Groundwater	TPH	DRO	ug/l		190	150U			170UJ			575U				130J				
SWMU 61	TFB-MW-4A	Groundwater	TPH	GRO	ug/l	27	20U	20U			21			90U				12J		32U		
SWMU 61	TFB-MW-4A	Groundwater	TPH	RRO	ug/l									1150U				180J				
SWMU 61	TFB-MW-4A	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U			0.5U				1U		2U		
SWMU 61	TFB-MW-4A	Groundwater	VOA	BTEX (total)	ug/l	0.92																
SWMU 61	TFB-MW-4A	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U			0.2U			2U				1U		2U		
SWMU 61	TFB-MW-4A	Groundwater	VOA	m,p-Xylene	ug/l	0.65	0.4U	0.4U			0.4U			2U						2U		
SWMU 61	TFB-MW-4A	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															2U		
SWMU 61	TFB-MW-4A	Groundwater	VOA	o-Xylene	ug/l	0.27	0.2U	0.2U			0.2UJ			2U						2U		
SWMU 61	TFB-MW-4A	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			2U				1U		2U		
SWMU 61	TFB-MW-4A	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 61	TFB-MW-4A	Groundwater	VOA	Xylenes (total)	ug/l	0.92																
SWMU 61	TFB-MW4B	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	79UJ	79U			86U											
SWMU 61	TFB-MW4B	Groundwater	TPH	C10-C24 Aromatics	ug/l	350	360UJ	300J			430											
SWMU 61	TFB-MW4B	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59UJ	59UJ														
SWMU 61	TFB-MW4B	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	79UJ	79U														
SWMU 61	TFB-MW4B	Groundwater	TPH	C6-C9 Aliphatics	ug/l	25000	20000J	29000			36000J											
SWMU 61	TFB-MW4B	Groundwater	TPH	C6-C9 Aromatics	ug/l	22000	16000	19000			21000											
SWMU 61	TFB-MW4B	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									22400								
SWMU 61	TFB-MW4B	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									14200								
SWMU 61	TFB-MW4B	Groundwater	TPH	DRO	ug/l		400UJ	300			430			1450				1300				
SWMU 61	TFB-MW4B	Groundwater	TPH	GRO	ug/l	47000	36000	49000			57000J			36500				29000		30000	50600J	46700J
SWMU 61	TFB-MW4B	Groundwater	TPH	RRO	ug/l									1120U				280U				
SWMU 61	TFB-MW4B	Groundwater	VOA	Benzene	ug/l	100	62	74			80U			54				50J		73J	69J	49.5J
SWMU 61	TFB-MW4B	Groundwater	VOA	BTEX (total)	ug/l	19200		16974														
SWMU 61	TFB-MW4B	Groundwater	VOA	Ethylbenzene	ug/l	1600	1200J	1400			1600			1110				990		2200	1660J	1750J
SWMU 61	TFB-MW4B	Groundwater	VOA	m,p-Xylene	ug/l	9500	6700	8200			9300			6100						10000		
SWMU 61	TFB-MW4B	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l															100U		
SWMU 61	TFB-MW4B	Groundwater	VOA	o-Xylene	ug/l	2600	1900	2400			2500J			1750						3456.00		
SWMU 61	TFB-MW4B	Groundwater	VOA	Toluene	ug/l	5400	3600	4900			4900			3270				3000		5600	6110J	4580J
SWMU 61	TFB-MW4B	Groundwater	VOA	Xylenes	ug/l													7600			12100J	12500J
SWMU 61	TFB-MW4B	Groundwater	VOA	Xylenes (total)	ug/l	12100		8200														
SWMU 62	NS-AS-1	Groundwater	TPH	DRO	ug/l									435								
SWMU 62	NS-AS-1	Groundwater	TPH	GRO	ug/l									50U								
SWMU 62	NS-AS-1	Groundwater	VOA	Benzene	ug/l									0.2U								
SWMU 62	NS-AS-1	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
SWMU 62	NS-AS-1	Groundwater	VOA	Toluene	ug/l									0.5U								
SWMU 62	NS-AS-1	Groundwater	VOA	Xylenes	ug/l									1U								
SWMU 62 (Eagle)	03-012	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	03-012	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78UJ	82UJ			78U											

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 62 (Eagle)	03-012	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	78UJ	82UJ			78UJ											
SWMU 62 (Eagle)	03-012	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58UJ	61UJ														
SWMU 62 (Eagle)	03-012	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78UJ	82UJ														
SWMU 62 (Eagle)	03-012	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U			20U											
SWMU 62 (Eagle)	03-012	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SWMU 62 (Eagle)	03-012	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	03-012	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Eagle)	03-012	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Eagle)	03-012	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	03-012	Groundwater	TPH	DRO	ug/l		160UJ	160UJ			160UJ		100U	549U				160U				
SWMU 62 (Eagle)	03-012	Groundwater	TPH	GRO	ug/l	20U	20U	20U			20U		50U	90U				50U				
SWMU 62 (Eagle)	03-012	Groundwater	TPH	RRO	ug/l									1100U				280U				
SWMU 62 (Eagle)	03-012	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Eagle)	03-012	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U			0.5U				1U				
SWMU 62 (Eagle)	03-012	Groundwater	VOA	BTEX (total)	ug/l	0.4U	0.2															
SWMU 62 (Eagle)	03-012	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U			0.2U			2U				1U				
SWMU 62 (Eagle)	03-012	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U			0.4U			2U								
SWMU 62 (Eagle)	03-012	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2UJ			2U								
SWMU 62 (Eagle)	03-012	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			2U				1U				
SWMU 62 (Eagle)	03-012	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 62 (Eagle)	03-012	Groundwater	VOA	Xylenes (total)	ug/l	0.4U	0.2															
SWMU 62 (Eagle)	03-103	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	03-103	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	03-103	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	03-103	Groundwater	TPH	DRO	ug/l								744									
SWMU 62 (Eagle)	03-103	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Eagle)	03-103	Groundwater	TPH	Xylenes	ug/l								3.5									
SWMU 62 (Eagle)	03-107	Groundwater	TPH	Benzene	ug/l								68.6									
SWMU 62 (Eagle)	03-107	Groundwater	TPH	Ethylbenzene	ug/l								712									
SWMU 62 (Eagle)	03-107	Groundwater	TPH	Toluene	ug/l								938									
SWMU 62 (Eagle)	03-107	Groundwater	TPH	DRO	ug/l								19300									
SWMU 62 (Eagle)	03-107	Groundwater	TPH	GRO	ug/l								10600									
SWMU 62 (Eagle)	03-107	Groundwater	TPH	Xylenes	ug/l								1820									
SWMU 62 (Eagle)	03-107	Groundwater	VOA	Benzene	ug/l								82.1									
SWMU 62 (Eagle)	03-109	Groundwater	DIN	Antimony	ug/l													0.1U				
SWMU 62 (Eagle)	03-109	Groundwater	DIN	Lead	ug/l									0.3U				0.267				
SWMU 62 (Eagle)	03-109	Groundwater	TIN	Lead	ug/l									2U				0.15U				
SWMU 62 (Eagle)	03-109	Groundwater	TIN	Thallium	ug/l													0.25U				
SWMU 62 (Eagle)	03-109	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	03-109	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80J	77U			78UJ											
SWMU 62 (Eagle)	03-109	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	210UJ	77UJ			78UJ											
SWMU 62 (Eagle)	03-109	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59UJ	58UJ														
SWMU 62 (Eagle)	03-109	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78UJ	77U														
SWMU 62 (Eagle)	03-109	Groundwater	TPH	C6-C9 Aliphatics	ug/l	26	20UJ	20U			20U											
SWMU 62 (Eagle)	03-109	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SWMU 62 (Eagle)	03-109	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	03-109	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Eagle)	03-109	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Eagle)	03-109	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	03-109	Groundwater	TPH	DRO	ug/l		290UJ	150U			160UJ		100U	588U				160U				
SWMU 62 (Eagle)	03-109	Groundwater	TPH	GRO	ug/l	28	20U	20U			20U		50U	90U				6.1J				
SWMU 62 (Eagle)	03-109	Groundwater	TPH	RRO	ug/l									1180U				110J				
SWMU 62 (Eagle)	03-109	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Eagle)	03-109	Groundwater	VOA	Aggregate TPH	ug/l						0.2											
SWMU 62 (Eagle)	03-109	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2UJ			0.5U				1U				
SWMU 62 (Eagle)	03-109	Groundwater	VOA	BTEX (total)	ug/l	0.44					0.2											
SWMU 62 (Eagle)	03-109	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U			0.2U			2U				1U				
SWMU 62 (Eagle)	03-109	Groundwater	VOA	m,p-Xylene	ug/l	0.44	0.4U	0.4U			0.4U			2U								
SWMU 62 (Eagle)	03-109	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2U			2U								
SWMU 62 (Eagle)	03-109	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			2U				1U				
SWMU 62 (Eagle)	03-109	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 62 (Eagle)	03-109	Groundwater	VOA	Xylenes (total)	ug/l	0.44					0.2											
SWMU 62 (Eagle)	03-562	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	03-562	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	03-562	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	03-562	Groundwater	TPH	DRO	ug/l								100U									
SWMU 62 (Eagle)	03-562	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Eagle)	03-562	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Eagle)	03-898	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	03-898	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78UJ	76U		81UJ												
SWMU 62 (Eagle)	03-898	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	78UJ	76UJ		81UJ												
SWMU 62 (Eagle)	03-898	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59UJ	57U														
SWMU 62 (Eagle)	03-898	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78UJ	76U														
SWMU 62 (Eagle)	03-898	Groundwater	TPH	C6-C9 Aliphatics	ug/l	24J	33J	20U		20U												
SWMU 62 (Eagle)	03-898	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SWMU 62 (Eagle)	03-898	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	03-898	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Eagle)	03-898	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Eagle)	03-898	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	03-898	Groundwater	TPH	DRO	ug/l		160UJ	150U		160UJ			135	581U				160U				
SWMU 62 (Eagle)	03-898	Groundwater	TPH	GRO	ug/l	27J	33	20U		20U			50U	90U				6.9J				
SWMU 62 (Eagle)	03-898	Groundwater	TPH	RRO	ug/l									1160U				120J				
SWMU 62 (Eagle)	03-898	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Eagle)	03-898	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U				0.5U				1U				
SWMU 62 (Eagle)	03-898	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SWMU 62 (Eagle)	03-898	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U				2U				1U				
SWMU 62 (Eagle)	03-898	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U				2U								
SWMU 62 (Eagle)	03-898	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U				2U								
SWMU 62 (Eagle)	03-898	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U				2U				1U				
SWMU 62 (Eagle)	03-898	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 62 (Eagle)	03-898	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	Benzene	ug/l								0.337									
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	77UJ	79UJ			150											
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	C10-C24 Aromatics	ug/l	475	330UJ	290J			320J											
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58UJ	59UJ														
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	77UJ	79UJ														
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U			20U											
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	C6-C9 Aromatics	ug/l	130J	64	52			100											
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	Ethylbenzene	ug/l								1.51									
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									118								
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	DRO	ug/l		370UJ	340J			480J		4170	2110				1200				
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	GRO	ug/l	88J	42	48			82		150	101				99				
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	RRO	ug/l									1100U				190J				
SWMU 62 (Eagle)	AMW-704	Groundwater	TPH	Xylenes	ug/l								15.6									
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U		0.139U	0.5U				0.39J				
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	BTEX (total)	ug/l	18.5																
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	Ethylbenzene	ug/l	1.5J	0.67	0.54			0.78			2.74				6.5				
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	m,p-Xylene	ug/l	4J	1.9J	2.1			4.7			5.88								
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	o-Xylene	ug/l	13	5.8J	4.2			6.6J			7.59								
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			2U				1U				
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	Xylenes	ug/l													7.6				
SWMU 62 (Eagle)	AMW-704	Groundwater	VOA	Xylenes (total)	ug/l	17																
SWMU 62 (Eagle)	CTO124-MW15	Groundwater	TPH	Benzene	ug/l								1.16									
SWMU 62 (Eagle)	CTO124-MW15	Groundwater	TPH	Ethylbenzene	ug/l								23.9									
SWMU 62 (Eagle)	CTO124-MW15	Groundwater	TPH	Toluene	ug/l								3.48									
SWMU 62 (Eagle)	CTO124-MW15	Groundwater	TPH	DRO	ug/l								9820									
SWMU 62 (Eagle)	CTO124-MW15	Groundwater	TPH	GRO	ug/l								551									
SWMU 62 (Eagle)	CTO124-MW15	Groundwater	TPH	Xylenes	ug/l								136									
SWMU 62 (Eagle)	CTO124-MW15	Groundwater	VOA	Benzene	ug/l								0.822J									
SWMU 62 (Eagle)	HMW-303-1	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	HMW-303-1	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	HMW-303-1	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	HMW-303-1	Groundwater	TPH	DRO	ug/l								313									
SWMU 62 (Eagle)	HMW-303-1	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Eagle)	HMW-303-1	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Eagle)	HMW-303-10	Groundwater	TPH	Benzene	ug/l								1.99									
SWMU 62 (Eagle)	HMW-303-10	Groundwater	TPH	Ethylbenzene	ug/l								3.84									
SWMU 62 (Eagle)	HMW-303-10	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	HMW-303-10	Groundwater	TPH	DRO	ug/l								4850									
SWMU 62 (Eagle)	HMW-303-10	Groundwater	TPH	GRO	ug/l								60.3									
SWMU 62 (Eagle)	HMW-303-10	Groundwater	TPH	Xylenes	ug/l								3.93									
SWMU 62 (Eagle)	HMW-303-10	Groundwater	VOA	Benzene	ug/l								1.66									
SWMU 62 (Eagle)	HMW-303-2	Groundwater	TPH	Benzene	ug/l								0.92									
SWMU 62 (Eagle)	HMW-303-2	Groundwater	TPH	Ethylbenzene	ug/l								4.44									
SWMU 62 (Eagle)	HMW-303-2	Groundwater	TPH	Toluene	ug/l								0.754									
SWMU 62 (Eagle)	HMW-303-2	Groundwater	TPH	DRO	ug/l								13900J									
SWMU 62 (Eagle)	HMW-303-2	Groundwater	TPH	GRO	ug/l								551									
SWMU 62 (Eagle)	HMW-303-2	Groundwater	TPH	Xylenes	ug/l								58.5									
SWMU 62 (Eagle)	HMW-303-2	Groundwater	VOA	Benzene	ug/l								0.139U									
SWMU 62 (Eagle)	HMW-303-4	Groundwater	TPH	Benzene	ug/l								1U									
SWMU 62 (Eagle)	HMW-303-4	Groundwater	TPH	Ethylbenzene	ug/l								6.72									
SWMU 62 (Eagle)	HMW-303-4	Groundwater	TPH	Toluene	ug/l								3.56									
SWMU 62 (Eagle)	HMW-303-4	Groundwater	TPH	DRO	ug/l								19900									
SWMU 62 (Eagle)	HMW-303-4	Groundwater	TPH	GRO	ug/l								421									
SWMU 62 (Eagle)	HMW-303-4	Groundwater	TPH	Xylenes	ug/l								33.4									
SWMU 62 (Eagle)	MW-303-13	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	MW-303-13	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	MW-303-13	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	MW-303-13	Groundwater	TPH	DRO	ug/l								100U									
SWMU 62 (Eagle)	MW-303-13	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Eagle)	MW-303-13	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Eagle)	MW-303-16	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	MW-303-16	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	MW-303-16	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	MW-303-16	Groundwater	TPH	DRO	ug/l								100U									
SWMU 62 (Eagle)	MW-303-16	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Eagle)	MW-303-16	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Eagle)	MW-303-17	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Eagle)	MW-303-17	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Eagle)	MW-303-17	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Eagle)	MW-303-17	Groundwater	TPH	DRO	ug/l								155									
SWMU 62 (Eagle)	MW-303-17	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Eagle)	MW-303-17	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Sandy)	03-104	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Sandy)	03-104	Groundwater	TPH	Ethylbenzene	ug/l								2.24									
SWMU 62 (Sandy)	03-104	Groundwater	TPH	Toluene	ug/l								0.684									
SWMU 62 (Sandy)	03-104	Groundwater	TPH	DRO	ug/l								11500									
SWMU 62 (Sandy)	03-104	Groundwater	TPH	GRO	ug/l								199UJ									
SWMU 62 (Sandy)	03-104	Groundwater	TPH	Xylenes	ug/l								18.6									
SWMU 62 (Sandy)	03-155	Groundwater	TPH	DRO	ug/l														750		1660	2070
SWMU 62 (Sandy)	03-155	Groundwater	TPH	GRO	ug/l														43J		61.5UJ	22J
SWMU 62 (Sandy)	03-155	Groundwater	VOA	Benzene	ug/l														2U		0.5U	0.5U
SWMU 62 (Sandy)	03-155	Groundwater	VOA	Ethylbenzene	ug/l														2U		0.5U	0.5U
SWMU 62 (Sandy)	03-155	Groundwater	VOA	m,p-Xylene	ug/l														2U			
SWMU 62 (Sandy)	03-155	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l														2U			
SWMU 62 (Sandy)	03-155	Groundwater	VOA	o-Xylene	ug/l														2U			
SWMU 62 (Sandy)	03-155	Groundwater	VOA	Toluene	ug/l														2U		0.5U	0.5U
SWMU 62 (Sandy)	03-155	Groundwater	VOA	Xylenes	ug/l																1U	1U
SWMU 62 (Sandy)	03-619	Groundwater	TPH	Benzene	ug/l								1.34									
SWMU 62 (Sandy)	03-619	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	76UJ	77U		82UJ												

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 62 (Sandy)	03-619	Groundwater	TPH	C10-C24 Aromatics	ug/l	122	170UJ	77UJ		150J												
SWMU 62 (Sandy)	03-619	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	57UJ	58U														
SWMU 62 (Sandy)	03-619	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	76UJ	77U														
SWMU 62 (Sandy)	03-619	Groundwater	TPH	C6-C9 Aliphatics	ug/l	200	340J	590		1400												
SWMU 62 (Sandy)	03-619	Groundwater	TPH	C6-C9 Aromatics	ug/l	52	76	51		330												
SWMU 62 (Sandy)	03-619	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Sandy)	03-619	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									201								
SWMU 62 (Sandy)	03-619	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Sandy)	03-619	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Sandy)	03-619	Groundwater	TPH	DRO	ug/l		240UJ	150U		180J			2600	1280				1600	710		302	
SWMU 62 (Sandy)	03-619	Groundwater	TPH	GRO	ug/l	250	420	650		1700			124J	203				250	300		155	
SWMU 62 (Sandy)	03-619	Groundwater	TPH	RRO	ug/l									1050U				800				
SWMU 62 (Sandy)	03-619	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Sandy)	03-619	Groundwater	VOA	Aggregate TPH	ug/l					75												
SWMU 62 (Sandy)	03-619	Groundwater	VOA	Benzene	ug/l	10	12	3.9J		32			1.3	0.954				3.8	3.8		0.5U	
SWMU 62 (Sandy)	03-619	Groundwater	VOA	BTEX (total)	ug/l	34				221												
SWMU 62 (Sandy)	03-619	Groundwater	VOA	Ethylbenzene	ug/l	10	5.5	9		73				2U				1.3	5.6		0.5U	
SWMU 62 (Sandy)	03-619	Groundwater	VOA	m,p-Xylene	ug/l	9.3	11	9		46				2U					4			
SWMU 62 (Sandy)	03-619	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l														2U			
SWMU 62 (Sandy)	03-619	Groundwater	VOA	o-Xylene	ug/l	2.2	2.6	0.27J		27				2U					3.15			
SWMU 62 (Sandy)	03-619	Groundwater	VOA	Toluene	ug/l	2.5	2.4	4.8		43				2U				1U	2U		0.5U	
SWMU 62 (Sandy)	03-619	Groundwater	VOA	Xylenes	ug/l													2.8J			1U	
SWMU 62 (Sandy)	03-619	Groundwater	VOA	Xylenes (total)	ug/l	11.5				46												
SWMU 62 (Sandy)	03-695	Groundwater	TPH	C10-C24 Aliphatics	ug/l		81	79U														
SWMU 62 (Sandy)	03-695	Groundwater	TPH	C10-C24 Aromatics	ug/l		130	79UJ														
SWMU 62 (Sandy)	03-695	Groundwater	TPH	C25-C36 Aliphatics	ug/l		50U	59UJ														
SWMU 62 (Sandy)	03-695	Groundwater	TPH	C25-C36 Aromatics	ug/l		70U	79U														
SWMU 62 (Sandy)	03-695	Groundwater	TPH	C6-C9 Aliphatics	ug/l		20U	20U														
SWMU 62 (Sandy)	03-695	Groundwater	TPH	C6-C9 Aromatics	ug/l		20U	20U														
SWMU 62 (Sandy)	03-695	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Sandy)	03-695	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Sandy)	03-695	Groundwater	TPH	DRO	ug/l		210	160U						959				740				
SWMU 62 (Sandy)	03-695	Groundwater	TPH	GRO	ug/l		20U	20U						90U				50U				
SWMU 62 (Sandy)	03-695	Groundwater	TPH	RRO	ug/l									1230U				670				
SWMU 62 (Sandy)	03-695	Groundwater	VOA	Benzene	ug/l		0.2U	0.2U						0.5U				1U				
SWMU 62 (Sandy)	03-695	Groundwater	VOA	BTEX (total)	ug/l		0.2															
SWMU 62 (Sandy)	03-695	Groundwater	VOA	Ethylbenzene	ug/l		0.2U	0.2U						2U				1U				
SWMU 62 (Sandy)	03-695	Groundwater	VOA	m,p-Xylene	ug/l		0.4U	0.4U						2U								
SWMU 62 (Sandy)	03-695	Groundwater	VOA	o-Xylene	ug/l		0.2U	0.2U						2U								
SWMU 62 (Sandy)	03-695	Groundwater	VOA	Toluene	ug/l		0.3U	0.3U						2U				1U				
SWMU 62 (Sandy)	03-695	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 62 (Sandy)	03-695	Groundwater	VOA	Xylenes (total)	ug/l		0.2															
SWMU 62 (Sandy)	03-696	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Sandy)	03-696	Groundwater	TPH	C10-C24 Aliphatics	ug/l			82U														
SWMU 62 (Sandy)	03-696	Groundwater	TPH	C10-C24 Aromatics	ug/l			82UJ														
SWMU 62 (Sandy)	03-696	Groundwater	TPH	C25-C36 Aliphatics	ug/l			61UJ														
SWMU 62 (Sandy)	03-696	Groundwater	TPH	C25-C36 Aromatics	ug/l			82U														
SWMU 62 (Sandy)	03-696	Groundwater	TPH	C6-C9 Aliphatics	ug/l			79J														
SWMU 62 (Sandy)	03-696	Groundwater	TPH	C6-C9 Aromatics	ug/l			31														
SWMU 62 (Sandy)	03-696	Groundwater	TPH	Ethylbenzene	ug/l								9.19									
SWMU 62 (Sandy)	03-696	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Sandy)	03-696	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									398								
SWMU 62 (Sandy)	03-696	Groundwater	TPH	Toluene	ug/l								0.5									
SWMU 62 (Sandy)	03-696	Groundwater	TPH	DRO	ug/l			150U					1870	1980				780				
SWMU 62 (Sandy)	03-696	Groundwater	TPH	GRO	ug/l			110J					162UJ	394				520				
SWMU 62 (Sandy)	03-696	Groundwater	TPH	RRO	ug/l									1110U				190J				
SWMU 62 (Sandy)	03-696	Groundwater	TPH	Xylenes	ug/l								28.8									
SWMU 62 (Sandy)	03-696	Groundwater	VOA	Benzene	ug/l			0.2U						0.5U				1U				
SWMU 62 (Sandy)	03-696	Groundwater	VOA	Ethylbenzene	ug/l			0.84J						17.8				16				
SWMU 62 (Sandy)	03-696	Groundwater	VOA	m,p-Xylene	ug/l			1.1J						38								
SWMU 62 (Sandy)	03-696	Groundwater	VOA	o-Xylene	ug/l			0.8J						26.2								
SWMU 62 (Sandy)	03-696	Groundwater	VOA	Toluene	ug/l			0.3U						2U				1U				
SWMU 62 (Sandy)	03-696	Groundwater	VOA	Xylenes	ug/l													65				
SWMU 62 (Sandy)	03-697	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Sandy)	03-697	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Sandy)	03-697	Groundwater	TPH	DRO	ug/l									556U				160U				
SWMU 62 (Sandy)	03-697	Groundwater	TPH	GRO	ug/l									90U				7J				
SWMU 62 (Sandy)	03-697	Groundwater	TPH	RRO	ug/l									1110U				120J				
SWMU 62 (Sandy)	03-697	Groundwater	VOA	Benzene	ug/l									0.5U				1U				
SWMU 62 (Sandy)	03-697	Groundwater	VOA	Ethylbenzene	ug/l									2U				1U				
SWMU 62 (Sandy)	03-697	Groundwater	VOA	m,p-Xylene	ug/l									2U								
SWMU 62 (Sandy)	03-697	Groundwater	VOA	o-Xylene	ug/l									2U								
SWMU 62 (Sandy)	03-697	Groundwater	VOA	Toluene	ug/l									2U				1U				
SWMU 62 (Sandy)	03-697	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 62 (Sandy)	03-778	Groundwater	TPH	Benzene	ug/l								0.238									
SWMU 62 (Sandy)	03-778	Groundwater	TPH	Ethylbenzene	ug/l								8.73									
SWMU 62 (Sandy)	03-778	Groundwater	TPH	Toluene	ug/l								0.597									
SWMU 62 (Sandy)	03-778	Groundwater	TPH	DRO	ug/l								4620									
SWMU 62 (Sandy)	03-778	Groundwater	TPH	GRO	ug/l								101									
SWMU 62 (Sandy)	03-778	Groundwater	TPH	Xylenes	ug/l								12.8									
SWMU 62 (Sandy)	03-778	Groundwater	VOA	Benzene	ug/l								0.139U									
SWMU 62 (Sandy)	03-886	Groundwater	TPH	Benzene	ug/l								1.96J									
SWMU 62 (Sandy)	03-886	Groundwater	TPH	Ethylbenzene	ug/l								26.7J									
SWMU 62 (Sandy)	03-886	Groundwater	TPH	Toluene	ug/l								5.05J									
SWMU 62 (Sandy)	03-886	Groundwater	TPH	DRO	ug/l								6700									
SWMU 62 (Sandy)	03-886	Groundwater	TPH	GRO	ug/l								443J									
SWMU 62 (Sandy)	03-886	Groundwater	TPH	Xylenes	ug/l								106J									
SWMU 62 (Sandy)	03-886	Groundwater	VOA	Benzene	ug/l								1.25J									
SWMU 62 (Sandy)	03-895	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	79UJ	76U		81UJ												
SWMU 62 (Sandy)	03-895	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	110UJ	76UJ		81UJ												
SWMU 62 (Sandy)	03-895	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59UJ	57U														

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 62 (Sandy)	03-895	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78UJ	76U														
SWMU 62 (Sandy)	03-895	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U		20U												
SWMU 62 (Sandy)	03-895	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
SWMU 62 (Sandy)	03-895	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Sandy)	03-895	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Sandy)	03-895	Groundwater	TPH	DRO	ug/l		180UJ	150U		160UJ				568U				170U				
SWMU 62 (Sandy)	03-895	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U				90U				50U				
SWMU 62 (Sandy)	03-895	Groundwater	TPH	RRO	ug/l									1140U				130J				
SWMU 62 (Sandy)	03-895	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U		0.2U				0.5U				1U				
SWMU 62 (Sandy)	03-895	Groundwater	VOA	BTEX (total)	ug/l	0.4U																
SWMU 62 (Sandy)	03-895	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U		0.2U				2U				1U				
SWMU 62 (Sandy)	03-895	Groundwater	VOA	m,p-Xylene	ug/l	0.4U	0.4U	0.4U		0.4U				2U								
SWMU 62 (Sandy)	03-895	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U		0.2U				2U								
SWMU 62 (Sandy)	03-895	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U		0.3U				2U				1U				
SWMU 62 (Sandy)	03-895	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 62 (Sandy)	03-895	Groundwater	VOA	Xylenes (total)	ug/l	0.4U																
SWMU 62 (Sandy)	03-896	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	77UJ	77U			78UJ											
SWMU 62 (Sandy)	03-896	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	210UJ	480J			78UJ											
SWMU 62 (Sandy)	03-896	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58UJ	58U														
SWMU 62 (Sandy)	03-896	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	77UJ	77U														
SWMU 62 (Sandy)	03-896	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	24			20U											
SWMU 62 (Sandy)	03-896	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U			20U											
SWMU 62 (Sandy)	03-896	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Sandy)	03-896	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
SWMU 62 (Sandy)	03-896	Groundwater	TPH	DRO	ug/l		270UJ	480			160UJ			543U				160U				
SWMU 62 (Sandy)	03-896	Groundwater	TPH	GRO	ug/l	20U	21	28			25			90U				35J				
SWMU 62 (Sandy)	03-896	Groundwater	TPH	RRO	ug/l									1090U				220J				
SWMU 62 (Sandy)	03-896	Groundwater	VOA	Benzene	ug/l	0.2U	0.2U	0.2U			0.2U			0.5U				1U				
SWMU 62 (Sandy)	03-896	Groundwater	VOA	BTEX (total)	ug/l	0.6																
SWMU 62 (Sandy)	03-896	Groundwater	VOA	Ethylbenzene	ug/l	0.2U	0.2U	0.2U			0.2U			2U				0.64J				
SWMU 62 (Sandy)	03-896	Groundwater	VOA	m,p-Xylene	ug/l	0.6	0.41	0.46			0.74J			2U								
SWMU 62 (Sandy)	03-896	Groundwater	VOA	o-Xylene	ug/l	0.2U	0.2U	0.2U			0.2UJ			2U								
SWMU 62 (Sandy)	03-896	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U			0.3U			2U				1U				
SWMU 62 (Sandy)	03-896	Groundwater	VOA	Xylenes	ug/l													3U				
SWMU 62 (Sandy)	03-896	Groundwater	VOA	Xylenes (total)	ug/l	0.6																
SWMU 62 (Sandy)	03-897	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	75UJ	78U			80UJ											
SWMU 62 (Sandy)	03-897	Groundwater	TPH	C10-C24 Aromatics	ug/l	361	330UJ	78UJ			490J											
SWMU 62 (Sandy)	03-897	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	56UJ	59U														
SWMU 62 (Sandy)	03-897	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	75UJ	78U														
SWMU 62 (Sandy)	03-897	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20UJ	20UJ	30			47											
SWMU 62 (Sandy)	03-897	Groundwater	TPH	C6-C9 Aromatics	ug/l	53J	71	88			100											
SWMU 62 (Sandy)	03-897	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
SWMU 62 (Sandy)	03-897	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									72.3								
SWMU 62 (Sandy)	03-897	Groundwater	TPH	DRO	ug/l		390UJ	160U			560J			969				730				
SWMU 62 (Sandy)	03-897	Groundwater	TPH	GRO	ug/l	65J	91	120			150			100				220				
SWMU 62 (Sandy)	03-897	Groundwater	TPH	RRO	ug/l									1110U				180J				
SWMU 62 (Sandy)	03-897	Groundwater	VOA	Benzene	ug/l	0.98J	0.76	0.98			0.6			0.5U				0.39J				
SWMU 62 (Sandy)	03-897	Groundwater	VOA	BTEX (total)	ug/l	19.79																
SWMU 62 (Sandy)	03-897	Groundwater	VOA	Ethylbenzene	ug/l	15	10	9.9			14			6.92				14				
SWMU 62 (Sandy)	03-897	Groundwater	VOA	m,p-Xylene	ug/l	3.4J	3.4J	3.5			3.7			2.57								
SWMU 62 (Sandy)	03-897	Groundwater	VOA	o-Xylene	ug/l	0.41J	0.2U	0.27			0.2UJ			2U								
SWMU 62 (Sandy)	03-897	Groundwater	VOA	Toluene	ug/l	0.3UJ	0.3U	0.3U			0.3U			2U				1U				
SWMU 62 (Sandy)	03-897	Groundwater	VOA	Xylenes	ug/l													5.3				
SWMU 62 (Sandy)	03-897	Groundwater	VOA	Xylenes (total)	ug/l	3.81																
SWMU 62 (Sandy)	DW-134-2	Groundwater	TPH	Benzene	ug/l								1.14									
SWMU 62 (Sandy)	DW-134-2	Groundwater	TPH	Ethylbenzene	ug/l								9.95									
SWMU 62 (Sandy)	DW-134-2	Groundwater	TPH	Toluene	ug/l								1U									
SWMU 62 (Sandy)	DW-134-2	Groundwater	TPH	DRO	ug/l								5840									
SWMU 62 (Sandy)	DW-134-2	Groundwater	TPH	GRO	ug/l								264									
SWMU 62 (Sandy)	DW-134-2	Groundwater	TPH	Xylenes	ug/l								30.6									
SWMU 62 (Sandy)	DW-134-2	Groundwater	VOA	Benzene	ug/l								0.894J									
SWMU 62 (Sandy)	HMW-102-1	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Sandy)	HMW-102-1	Groundwater	TPH	Ethylbenzene	ug/l								2.91									
SWMU 62 (Sandy)	HMW-102-1	Groundwater	TPH	Toluene	ug/l								0.805									
SWMU 62 (Sandy)	HMW-102-1	Groundwater	TPH	DRO	ug/l								15800J									
SWMU 62 (Sandy)	HMW-102-1	Groundwater	TPH	GRO	ug/l								111UJ									
SWMU 62 (Sandy)	HMW-102-1	Groundwater	TPH	Xylenes	ug/l								25.2									
SWMU 62 (Sandy)	HMW-134-2	Groundwater	TPH	Benzene	ug/l								152									
SWMU 62 (Sandy)	HMW-134-2	Groundwater	TPH	Ethylbenzene	ug/l								302									
SWMU 62 (Sandy)	HMW-134-2	Groundwater	TPH	Toluene	ug/l								32.2									
SWMU 62 (Sandy)	HMW-134-2	Groundwater	TPH	DRO	ug/l								2870									
SWMU 62 (Sandy)	HMW-134-2	Groundwater	TPH	GRO	ug/l								3850J									
SWMU 62 (Sandy)	HMW-134-2	Groundwater	TPH	Xylenes	ug/l								373									
SWMU 62 (Sandy)	HMW-134-2	Groundwater	VOA	Benzene	ug/l								144									
SWMU 62 (Sandy)	HMW-139-2	Groundwater	TPH	Benzene	ug/l								19.4									
SWMU 62 (Sandy)	HMW-139-2	Groundwater	TPH	Ethylbenzene	ug/l								43.4									
SWMU 62 (Sandy)	HMW-139-2	Groundwater	TPH	Toluene	ug/l								4.32									
SWMU 62 (Sandy)	HMW-139-2	Groundwater	TPH	DRO	ug/l								8940									
SWMU 62 (Sandy)	HMW-139-2	Groundwater	TPH	GRO	ug/l								961									
SWMU 62 (Sandy)	HMW-139-2	Groundwater	TPH	Xylenes	ug/l								193									
SWMU 62 (Sandy)	HMW-139-2	Groundwater	VOA	Benzene	ug/l								17.6									
SWMU 62 (Sandy)	HMW-139-4	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Sandy)	HMW-139-4	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Sandy)	HMW-139-4	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Sandy)	HMW-139-4	Groundwater	TPH	DRO	ug/l								178									
SWMU 62 (Sandy)	HMW-139-4	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Sandy)	HMW-139-4	Groundwater	TPH	Xylenes	ug/l								1U									
SWMU 62 (Sandy)	HMW-146-3	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Sandy)	HMW-146-3	Groundwater	TPH	Ethylbenzene	ug/l								0.5U									
SWMU 62 (Sandy)	HMW-146-3	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Sandy)	HMW-146-3	Groundwater	TPH	DRO	ug/l								2070									

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
SWMU 62 (Sandy)	HMW-146-3	Groundwater	TPH	GRO	ug/l								50U									
SWMU 62 (Sandy)	HMW-146-3	Groundwater	TPH	Xylenes	ug/l								1.07									
SWMU 62 (Sandy)	MW-102-4	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Sandy)	MW-102-4	Groundwater	TPH	Ethylbenzene	ug/l								5.03									
SWMU 62 (Sandy)	MW-102-4	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Sandy)	MW-102-4	Groundwater	TPH	DRO	ug/l								18700									
SWMU 62 (Sandy)	MW-102-4	Groundwater	TPH	GRO	ug/l								101									
SWMU 62 (Sandy)	MW-102-4	Groundwater	TPH	RRO	ug/l								750U									
SWMU 62 (Sandy)	MW-102-4	Groundwater	TPH	Xylenes	ug/l								9									
SWMU 62 (Sandy)	MW-134-10	Groundwater	TPH	Benzene	ug/l								7.22J									
SWMU 62 (Sandy)	MW-134-10	Groundwater	TPH	Ethylbenzene	ug/l								44.2J									
SWMU 62 (Sandy)	MW-134-10	Groundwater	TPH	Toluene	ug/l								3.56J									
SWMU 62 (Sandy)	MW-134-10	Groundwater	TPH	DRO	ug/l								5030									
SWMU 62 (Sandy)	MW-134-10	Groundwater	TPH	GRO	ug/l								689									
SWMU 62 (Sandy)	MW-134-10	Groundwater	TPH	Xylenes	ug/l								156J									
SWMU 62 (Sandy)	MW-134-10	Groundwater	VOA	Benzene	ug/l								5.15									
SWMU 62 (Sandy)	MW-134-11	Groundwater	TPH	Benzene	ug/l								3.47									
SWMU 62 (Sandy)	MW-134-11	Groundwater	TPH	Ethylbenzene	ug/l								14.3									
SWMU 62 (Sandy)	MW-134-11	Groundwater	TPH	Toluene	ug/l								1.24									
SWMU 62 (Sandy)	MW-134-11	Groundwater	TPH	DRO	ug/l								7450									3500
SWMU 62 (Sandy)	MW-134-11	Groundwater	TPH	GRO	ug/l								214									208
SWMU 62 (Sandy)	MW-134-11	Groundwater	TPH	Xylenes	ug/l								34.1									
SWMU 62 (Sandy)	MW-134-11	Groundwater	VOA	Benzene	ug/l								3.56									1.58
SWMU 62 (Sandy)	MW-134-11	Groundwater	VOA	Ethylbenzene	ug/l																	14.3
SWMU 62 (Sandy)	MW-134-11	Groundwater	VOA	Toluene	ug/l																	2.14
SWMU 62 (Sandy)	MW-134-11	Groundwater	VOA	Xylenes	ug/l																	27.1
SWMU 62 (Sandy)	MW-146-4	Groundwater	TPH	Benzene	ug/l								0.2U									
SWMU 62 (Sandy)	MW-146-4	Groundwater	TPH	Ethylbenzene	ug/l								3.57J									
SWMU 62 (Sandy)	MW-146-4	Groundwater	TPH	Toluene	ug/l								0.5U									
SWMU 62 (Sandy)	MW-146-4	Groundwater	TPH	DRO	ug/l								6250J									
SWMU 62 (Sandy)	MW-146-4	Groundwater	TPH	GRO	ug/l								114UJ									
SWMU 62 (Sandy)	MW-146-4	Groundwater	TPH	Xylenes	ug/l								16.3J									
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Antimony	ug/l									1U								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Arsenic	ug/l									2.11								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Barium	ug/l									25.6								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Beryllium	ug/l									1U								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Cadmium	ug/l									1U								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Chromium	ug/l									3.45								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Lead	ug/l									1.05								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Mercury	ug/l									1U								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Nickel	ug/l									4.46								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Selenium	ug/l									1U								
SWMU 62 (Sandy)	TDEM-5	Groundwater	TIN	Thallium	ug/l									1U								
SWMU 85/SA 73	12-101	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												70J					
SWMU 85/SA 73	12-101	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												30J					
SWMU 85/SA 73	12-101	Groundwater	TPH	DRO	ug/l												1100					1090
SWMU 85/SA 73	12-101	Groundwater	TPH	GRO	ug/l																	80U
SWMU 85/SA 73	12-101	Groundwater	VOA	Benzene	ug/l																	0.5U
SWMU 85/SA 73	12-101	Groundwater	VOA	Ethylbenzene	ug/l																	0.11J
SWMU 85/SA 73	12-101	Groundwater	VOA	Toluene	ug/l																	0.5U
SWMU 85/SA 73	12-101	Groundwater	VOA	Xylenes	ug/l																	1U
SWMU 85/SA 73	12-105	Groundwater	TPH	DRO	ug/l												9600					
SWMU 85/SA 73	12-105	Groundwater	TPH	GRO	ug/l												130					
SWMU 85/SA 73	12-106	Groundwater	TPH	DRO	ug/l												2600					
Tanker Shed	04-175	Groundwater	SVOA	Acenaphthene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Acenaphthylene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Anthracene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Benzo(a)anthracene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Benzo(a)pyrene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Chrysene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Fluoranthene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Fluorene	ug/l									0.88								
Tanker Shed	04-175	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Naphthalene	ug/l									8.57								
Tanker Shed	04-175	Groundwater	SVOA	Phenanthrene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	SVOA	Pyrene	ug/l									0.2U								
Tanker Shed	04-175	Groundwater	TPH	DRO	ug/l									16900								7080J
Tanker Shed	04-175	Groundwater	TPH	GRO	ug/l									316								313
Tanker Shed	04-175	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,1,1-Trichloroethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,1,2-Trichloroethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,1-Dichloroethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,1-Dichloroethene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,1-Dichloropropene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									73.1								
Tanker Shed	04-175	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l									5U								
Tanker Shed	04-175	Groundwater	VOA	1,2-Dibromoethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,2-Dichlorobenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,2-Dichloroethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,2-Dichloropropane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									18.3								
Tanker Shed	04-175	Groundwater	VOA	1,3-Dichlorobenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	1,3-Dichloropropane	ug/l									1U								

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Tanker Shed	04-175	Groundwater	VOA	1,4-Dichlorobenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	2,2-Dichloropropane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	2-Butanone	ug/l									25.6								
Tanker Shed	04-175	Groundwater	VOA	2-Chlorotoluene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	2-Hexanone	ug/l									10U								
Tanker Shed	04-175	Groundwater	VOA	4-Chlorotoluene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	4-Isopropyltoluene	ug/l									9.25								
Tanker Shed	04-175	Groundwater	VOA	4-Methyl-2-pentanone	ug/l									10U								
Tanker Shed	04-175	Groundwater	VOA	Acetone	ug/l									25U								
Tanker Shed	04-175	Groundwater	VOA	Benzene	ug/l									1.44								0.71
Tanker Shed	04-175	Groundwater	VOA	Bromobenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Bromochloromethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Bromodichloromethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Bromoform	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Bromomethane	ug/l									2UJ								
Tanker Shed	04-175	Groundwater	VOA	Carbon disulfide	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Carbon tetrachloride	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Chlorobenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Chloroethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Chloroform	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Chloromethane	ug/l									5U								
Tanker Shed	04-175	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Dibromochloromethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Dibromomethane	ug/l									1UJ								
Tanker Shed	04-175	Groundwater	VOA	Dichlorodifluoromethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Ethylbenzene	ug/l									20.8								13.5
Tanker Shed	04-175	Groundwater	VOA	Hexachlorobutadiene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Isopropylbenzene	ug/l									2.82								
Tanker Shed	04-175	Groundwater	VOA	m,p-Xylene	ug/l									38								
Tanker Shed	04-175	Groundwater	VOA	Methylene chloride	ug/l									5U								
Tanker Shed	04-175	Groundwater	VOA	Naphthalene	ug/l									40.5								
Tanker Shed	04-175	Groundwater	VOA	n-Butylbenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	n-Propylbenzene	ug/l									6.33								
Tanker Shed	04-175	Groundwater	VOA	o-Xylene	ug/l									35.6								
Tanker Shed	04-175	Groundwater	VOA	sec-Butylbenzene	ug/l									1.63								
Tanker Shed	04-175	Groundwater	VOA	Styrene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	tert-Butylbenzene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Tetrachloroethene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Toluene	ug/l									6								5.57
Tanker Shed	04-175	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Trichloroethene	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Trichlorofluoromethane	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Vinyl chloride	ug/l									1U								
Tanker Shed	04-175	Groundwater	VOA	Xylenes	ug/l									64.8								66.2
Tanker Shed	04-290	Groundwater	TPH	DRO	ug/l									9220								2890J
Tanker Shed	04-290	Groundwater	TPH	GRO	ug/l									3190								541
Tanker Shed	04-290	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										186							
Tanker Shed	04-290	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
Tanker Shed	04-290	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										24.9							
Tanker Shed	04-290	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	2-Butanone	ug/l										500U							
Tanker Shed	04-290	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										10U							
Tanker Shed	04-290	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	2-Hexanone	ug/l										10U							
Tanker Shed	04-290	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	4-Isopropyltoluene	ug/l										7.21							
Tanker Shed	04-290	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
Tanker Shed	04-290	Groundwater	VOA	Benzene	ug/l									29.6J	6.8							2.37
Tanker Shed	04-290	Groundwater	VOA	Bromobenzene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Bromochloromethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Bromoform	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Bromomethane	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	Carbon disulfide	ug/l										10U							
Tanker Shed	04-290	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Chlorobenzene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Chloroethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Chloroform	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Chloromethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Dibromochloromethane	ug/l										1U							

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
Tanker Shed	04-290	Groundwater	VOA	Dibromomethane	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Ethylbenzene	ug/l									142J	82.4							31
Tanker Shed	04-290	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	Isopropylbenzene	ug/l										9.64							
Tanker Shed	04-290	Groundwater	VOA	m,p-Xylene	ug/l										95.2							
Tanker Shed	04-290	Groundwater	VOA	Methylene chloride	ug/l										5U							
Tanker Shed	04-290	Groundwater	VOA	Naphthalene	ug/l										106							
Tanker Shed	04-290	Groundwater	VOA	n-Butylbenzene	ug/l										30.4							
Tanker Shed	04-290	Groundwater	VOA	n-Propylbenzene	ug/l										24.4							
Tanker Shed	04-290	Groundwater	VOA	o-Xylene	ug/l										155							
Tanker Shed	04-290	Groundwater	VOA	sec-Butylbenzene	ug/l										5.6							
Tanker Shed	04-290	Groundwater	VOA	Styrene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Tetrachloroethene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Toluene	ug/l									753J	294							66.5
Tanker Shed	04-290	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Trichloroethene	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
Tanker Shed	04-290	Groundwater	VOA	Vinyl chloride	ug/l										2U							
Tanker Shed	04-290	Groundwater	VOA	Xylenes	ug/l									504J								77.8
Tanker Shed	04-302	Groundwater	TPH	DRO	ug/l									9050								
Tanker Shed	04-302	Groundwater	TPH	GRO	ug/l									2620								
Tanker Shed	04-302	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1.57							
Tanker Shed	04-302	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										95.6							
Tanker Shed	04-302	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
Tanker Shed	04-302	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										48							
Tanker Shed	04-302	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	2-Butanone	ug/l										50U							
Tanker Shed	04-302	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										10U							
Tanker Shed	04-302	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	2-Hexanone	ug/l										10U							
Tanker Shed	04-302	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	4-Isopropyltoluene	ug/l										5.57							
Tanker Shed	04-302	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
Tanker Shed	04-302	Groundwater	VOA	Benzene	ug/l									20.6	36.6							
Tanker Shed	04-302	Groundwater	VOA	Bromobenzene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Bromochloromethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Bromoform	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Bromomethane	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	Carbon disulfide	ug/l										10U							
Tanker Shed	04-302	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Chlorobenzene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Chloroethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Chloroform	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Chloromethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Dibromochloromethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Dibromomethane	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Ethylbenzene	ug/l									74.1	58.8							
Tanker Shed	04-302	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	Isopropylbenzene	ug/l										4.57							
Tanker Shed	04-302	Groundwater	VOA	m,p-Xylene	ug/l										189							
Tanker Shed	04-302	Groundwater	VOA	Methylene chloride	ug/l										5U							
Tanker Shed	04-302	Groundwater	VOA	Naphthalene	ug/l										85.8							
Tanker Shed	04-302	Groundwater	VOA	n-Butylbenzene	ug/l										13.3							
Tanker Shed	04-302	Groundwater	VOA	n-Propylbenzene	ug/l										10.9							
Tanker Shed	04-302	Groundwater	VOA	o-Xylene	ug/l										138							
Tanker Shed	04-302	Groundwater	VOA	sec-Butylbenzene	ug/l										2.81							
Tanker Shed	04-302	Groundwater	VOA	Styrene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Tetrachloroethene	ug/l										1.12							
Tanker Shed	04-302	Groundwater	VOA	Toluene	ug/l									649	539							
Tanker Shed	04-302	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Trichloroethene	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
Tanker Shed	04-302	Groundwater	VOA	Vinyl chloride	ug/l										2U							
Tanker Shed	04-302	Groundwater	VOA	Xylenes	ug/l									374								
Tanker Shed	04-303	Groundwater	TPH	DRO	ug/l									4670								
Tanker Shed	04-303	Groundwater	TPH	GRO	ug/l									190								

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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
Tanker Shed	04-303	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										17.9							
Tanker Shed	04-303	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
Tanker Shed	04-303	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										19.8							
Tanker Shed	04-303	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	2-Butanone	ug/l										50U							
Tanker Shed	04-303	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										10U							
Tanker Shed	04-303	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	2-Hexanone	ug/l										10U							
Tanker Shed	04-303	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	4-Isopropyltoluene	ug/l										1.51							
Tanker Shed	04-303	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
Tanker Shed	04-303	Groundwater	VOA	Benzene	ug/l									6.93	1.12							
Tanker Shed	04-303	Groundwater	VOA	Bromobenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Bromochloromethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Bromoform	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Bromomethane	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	Carbon disulfide	ug/l										10U							
Tanker Shed	04-303	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Chlorobenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Chloroethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Chloroform	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Chloromethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Dibromochloromethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Dibromomethane	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Ethylbenzene	ug/l									8.57	1.84							
Tanker Shed	04-303	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	Isopropylbenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	m,p-Xylene	ug/l										9.72							
Tanker Shed	04-303	Groundwater	VOA	Methylene chloride	ug/l										5U							
Tanker Shed	04-303	Groundwater	VOA	Naphthalene	ug/l										6.19							
Tanker Shed	04-303	Groundwater	VOA	n-Butylbenzene	ug/l										3.06							
Tanker Shed	04-303	Groundwater	VOA	n-Propylbenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	o-Xylene	ug/l										22.2							
Tanker Shed	04-303	Groundwater	VOA	sec-Butylbenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Styrene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Tetrachloroethene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Toluene	ug/l									3.4	1U							
Tanker Shed	04-303	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Trichloroethene	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
Tanker Shed	04-303	Groundwater	VOA	Vinyl chloride	ug/l										2U							
Tanker Shed	04-303	Groundwater	VOA	Xylenes	ug/l									25.1								
Tanker Shed	04-304	Groundwater	TPH	DRO	ug/l									9580								
Tanker Shed	04-304	Groundwater	TPH	GRO	ug/l									596J								
Tanker Shed	04-304	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										12.1							
Tanker Shed	04-304	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
Tanker Shed	04-304	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										2.77							
Tanker Shed	04-304	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	2-Butanone	ug/l										50U							
Tanker Shed	04-304	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	2-Hexanone	ug/l										10U							

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Non-Landfill Sites
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Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
Tanker Shed	04-304	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	4-Isopropyltoluene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
Tanker Shed	04-304	Groundwater	VOA	Benzene	ug/l									17.4	1.18							
Tanker Shed	04-304	Groundwater	VOA	Bromobenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Bromochloromethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Bromoform	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Bromomethane	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	Carbon disulfide	ug/l										10U							
Tanker Shed	04-304	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Chlorobenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Chloroethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Chloroform	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Chloromethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Dibromochloromethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Dibromomethane	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Ethylbenzene	ug/l									43.1	3							
Tanker Shed	04-304	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	Isopropylbenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	m,p-Xylene	ug/l										5.43							
Tanker Shed	04-304	Groundwater	VOA	Methylene chloride	ug/l										5U							
Tanker Shed	04-304	Groundwater	VOA	Naphthalene	ug/l										6.09							
Tanker Shed	04-304	Groundwater	VOA	n-Butylbenzene	ug/l										1.41							
Tanker Shed	04-304	Groundwater	VOA	n-Propylbenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	o-Xylene	ug/l										2.45							
Tanker Shed	04-304	Groundwater	VOA	sec-Butylbenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Styrene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Tetrachloroethene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Toluene	ug/l									8.19	1U							
Tanker Shed	04-304	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Trichloroethene	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
Tanker Shed	04-304	Groundwater	VOA	Vinyl chloride	ug/l										2U							
Tanker Shed	04-304	Groundwater	VOA	Xylenes	ug/l									93.3								
Tanker Shed	04-306	Groundwater	TPH	DRO	ug/l																	2500J
Tanker Shed	04-306	Groundwater	TPH	GRO	ug/l																	1460
Tanker Shed	04-306	Groundwater	VOA	Benzene	ug/l																	2.72J
Tanker Shed	04-306	Groundwater	VOA	Ethylbenzene	ug/l																	64.4J
Tanker Shed	04-306	Groundwater	VOA	Toluene	ug/l																	196J
Tanker Shed	04-306	Groundwater	VOA	Xylenes	ug/l																	292J
Tanker Shed	04-310	Groundwater	TPH	DRO	ug/l									609J								
Tanker Shed	04-310	Groundwater	TPH	GRO	ug/l									90.7								
Tanker Shed	04-310	Groundwater	VOA	Benzene	ug/l									0.2U								
Tanker Shed	04-310	Groundwater	VOA	Ethylbenzene	ug/l									5.64								
Tanker Shed	04-310	Groundwater	VOA	Toluene	ug/l									0.5U								
Tanker Shed	04-310	Groundwater	VOA	Xylenes	ug/l									11.3								
Tanker Shed	04-313	Groundwater	TPH	DRO	ug/l									100UJ								
Tanker Shed	04-313	Groundwater	TPH	GRO	ug/l									50U								
Tanker Shed	04-313	Groundwater	VOA	Benzene	ug/l									0.2U								
Tanker Shed	04-313	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Tanker Shed	04-313	Groundwater	VOA	Toluene	ug/l									0.5U								
Tanker Shed	04-313	Groundwater	VOA	Xylenes	ug/l									1U								
Tanker Shed	04-314	Groundwater	TPH	DRO	ug/l									100U								
Tanker Shed	04-314	Groundwater	TPH	GRO	ug/l									50U								
Tanker Shed	04-314	Groundwater	VOA	Benzene	ug/l									0.2U								
Tanker Shed	04-314	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Tanker Shed	04-314	Groundwater	VOA	Toluene	ug/l									0.5U								
Tanker Shed	04-314	Groundwater	VOA	Xylenes	ug/l									1U								
Tanker Shed	04-317	Groundwater	TPH	DRO	ug/l									9220								
Tanker Shed	04-317	Groundwater	TPH	GRO	ug/l									1620J								
Tanker Shed	04-317	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1.26							
Tanker Shed	04-317	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										129							
Tanker Shed	04-317	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
Tanker Shed	04-317	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										27.5							
Tanker Shed	04-317	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	2-Butanone	ug/l										59.4							
Tanker Shed	04-317	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										10U							
Tanker Shed	04-317	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	2-Hexanone	ug/l										10U							

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Tanker Shed	04-317	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	4-Isopropyltoluene	ug/l										4.8							
Tanker Shed	04-317	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
Tanker Shed	04-317	Groundwater	VOA	Benzene	ug/l									44.3	43.6							
Tanker Shed	04-317	Groundwater	VOA	Bromobenzene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Bromochloromethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Bromoform	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Bromomethane	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	Carbon disulfide	ug/l										10U							
Tanker Shed	04-317	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Chlorobenzene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Chloroethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Chloroform	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Chloromethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Dibromochloromethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Dibromomethane	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Ethylbenzene	ug/l									62.8	85.4							
Tanker Shed	04-317	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	Isopropylbenzene	ug/l										7							
Tanker Shed	04-317	Groundwater	VOA	m,p-Xylene	ug/l										183							
Tanker Shed	04-317	Groundwater	VOA	Methylene chloride	ug/l										5U							
Tanker Shed	04-317	Groundwater	VOA	Naphthalene	ug/l										92.2							
Tanker Shed	04-317	Groundwater	VOA	n-Butylbenzene	ug/l										17.5							
Tanker Shed	04-317	Groundwater	VOA	n-Propylbenzene	ug/l										16.1							
Tanker Shed	04-317	Groundwater	VOA	o-Xylene	ug/l										130							
Tanker Shed	04-317	Groundwater	VOA	sec-Butylbenzene	ug/l										3.96							
Tanker Shed	04-317	Groundwater	VOA	Styrene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Tetrachloroethene	ug/l										1.24							
Tanker Shed	04-317	Groundwater	VOA	Toluene	ug/l									431	535							
Tanker Shed	04-317	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Trichloroethene	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
Tanker Shed	04-317	Groundwater	VOA	Vinyl chloride	ug/l										2U							
Tanker Shed	04-317	Groundwater	VOA	Xylenes	ug/l									224								
Tanker Shed	04-601	Groundwater	SVOA	Acenaphthene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Acenaphthylene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Anthracene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Benzo(a)anthracene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Benzo(a)pyrene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l									0.1UJ								
Tanker Shed	04-601	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Chrysene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l									0.1UJ								
Tanker Shed	04-601	Groundwater	SVOA	Fluoranthene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Fluorene	ug/l									0.115								
Tanker Shed	04-601	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Naphthalene	ug/l									2.12								
Tanker Shed	04-601	Groundwater	SVOA	Phenanthrene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	SVOA	Pyrene	ug/l									0.1U								
Tanker Shed	04-601	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78U	82UJ	77UJ													
Tanker Shed	04-601	Groundwater	TPH	C10-C24 Aromatics	ug/l	200	89	220J	640J													
Tanker Shed	04-601	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	62UJ														
Tanker Shed	04-601	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	82UJ														
Tanker Shed	04-601	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	22	20U													
Tanker Shed	04-601	Groundwater	TPH	C6-C9 Aromatics	ug/l	51J	23	89	94													
Tanker Shed	04-601	Groundwater	TPH	DRO	ug/l		160	290J	640J					2620J				2600	1000		2520	2850
Tanker Shed	04-601	Groundwater	TPH	GRO	ug/l	56J	26	110	97					132				570	160		619	345
Tanker Shed	04-601	Groundwater	TPH	RRO	ug/l													250J				
Tanker Shed	04-601	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,1,1-Trichloroethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	1,1,2-Trichloroethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,1-Dichloroethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,1-Dichloroethene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,1-Dichloropropene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,2,3-Trichloropropane	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l										10.2							
Tanker Shed	04-601	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l										2.5U							
Tanker Shed	04-601	Groundwater	VOA	1,2-Dibromoethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,2-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,2-Dichloroethane	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	1,2-Dichloropropane	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,3-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,3-Dichloropropane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	1,4-Dichlorobenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	2,2-Dichloropropane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	2-Butanone	ug/l										50U							
Tanker Shed	04-601	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l										10U							
Tanker Shed	04-601	Groundwater	VOA	2-Chlorotoluene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	2-Hexanone	ug/l										10U							
Tanker Shed	04-601	Groundwater	VOA	4-Chlorotoluene	ug/l										1U							

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Tanker Shed	04-601	Groundwater	VOA	4-Isopropyltoluene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	4-Methyl-2-pentanone	ug/l										10U							
Tanker Shed	04-601	Groundwater	VOA	Benzene	ug/l	9.9J	1.9	11	9.9					13.3	10.4			9.8	3.3		0.56	0.54
Tanker Shed	04-601	Groundwater	VOA	Bromobenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Bromochloromethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Bromodichloromethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Bromoform	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Bromomethane	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	BTEX (total)	ug/l	16.3																
Tanker Shed	04-601	Groundwater	VOA	Carbon disulfide	ug/l										10U							
Tanker Shed	04-601	Groundwater	VOA	Carbon tetrachloride	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Chlorobenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Chloroethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Chloroform	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Chloromethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Dibromochloromethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Dibromomethane	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	Dichlorodifluoromethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Ethylbenzene	ug/l	3	2.4	10	5.3UJ					7.9	3.14			54	8.3		29.4	20
Tanker Shed	04-601	Groundwater	VOA	Hexachlorobutadiene	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	Isopropylbenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	m,p-Xylene	ug/l	1.5J	0.79	1.7	1.6						2U				4.6			
Tanker Shed	04-601	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l														2U			
Tanker Shed	04-601	Groundwater	VOA	Methylene chloride	ug/l										5U							
Tanker Shed	04-601	Groundwater	VOA	Naphthalene	ug/l										3.86							
Tanker Shed	04-601	Groundwater	VOA	n-Butylbenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	n-Propylbenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	o-Xylene	ug/l	1.9J	0.2U	10	12						2.75				5.2			
Tanker Shed	04-601	Groundwater	VOA	sec-Butylbenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Styrene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	tert-Butylbenzene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Tetrachloroethene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Toluene	ug/l	0.3U	0.3U	0.3U	0.3					1.51	1U			22	2U		1.74	4.2
Tanker Shed	04-601	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Trichloroethene	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Trichlorofluoromethane	ug/l										1U							
Tanker Shed	04-601	Groundwater	VOA	Vinyl chloride	ug/l										2U							
Tanker Shed	04-601	Groundwater	VOA	Xylenes	ug/l									15.7J				130			72.6	56.6
Tanker Shed	04-601	Groundwater	VOA	Xylenes (total)	ug/l	3.4																
Tanker Shed	TS-01	Groundwater	TPH	DRO	ug/l									240					73J		87.9J	250U
Tanker Shed	TS-01	Groundwater	TPH	GRO	ug/l									50U					11J		80U	80U
Tanker Shed	TS-01	Groundwater	VOA	Benzene	ug/l									0.2U					2U		0.5U	0.5U
Tanker Shed	TS-01	Groundwater	VOA	Ethylbenzene	ug/l									0.5U					2U		0.5U	0.5U
Tanker Shed	TS-01	Groundwater	VOA	m,p-Xylene	ug/l														2U			
Tanker Shed	TS-01	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l														2U			
Tanker Shed	TS-01	Groundwater	VOA	o-Xylene	ug/l														2U			
Tanker Shed	TS-01	Groundwater	VOA	Toluene	ug/l									0.5U					2U		0.5U	0.5U
Tanker Shed	TS-01	Groundwater	VOA	Xylenes	ug/l									1U							1U	0.37J
Tanker Shed	TS-02	Groundwater	TPH	DRO	ug/l									148								
Tanker Shed	TS-02	Groundwater	TPH	GRO	ug/l									50U								
Tanker Shed	TS-02	Groundwater	VOA	Benzene	ug/l									0.2U								
Tanker Shed	TS-02	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Tanker Shed	TS-02	Groundwater	VOA	Toluene	ug/l									0.5U								
Tanker Shed	TS-02	Groundwater	VOA	Xylenes	ug/l									1U								
Tanker Shed	TS-03	Groundwater	TPH	DRO	ug/l									153								
Tanker Shed	TS-03	Groundwater	TPH	GRO	ug/l									50U								
Tanker Shed	TS-03	Groundwater	VOA	Benzene	ug/l									0.2U								
Tanker Shed	TS-03	Groundwater	VOA	Ethylbenzene	ug/l									0.5U								
Tanker Shed	TS-03	Groundwater	VOA	Toluene	ug/l									0.5U								
Tanker Shed	TS-03	Groundwater	VOA	Xylenes	ug/l									1U								
Tanker Shed	TS-04	Groundwater	TPH	DRO	ug/l									488								
Tanker Shed	TS-04	Groundwater	TPH	GRO	ug/l									50U								
Tanker Shed	TS-04	Groundwater	VOA	Benzene	ug/l									0.2U								
Tanker Shed	TS-04	Groundwater	VOA	Ethylbenzene	ug/l									3.09								
Tanker Shed	TS-04	Groundwater	VOA	Toluene	ug/l									0.5U								
Tanker Shed	TS-04	Groundwater	VOA	Xylenes	ug/l									8.88								
Yakutat Hangar	05-221	Groundwater	TPH	DRO	ug/l												430					200J
Yakutat Hangar	05-221	Groundwater	TPH	GRO	ug/l												34J					
Yakutat Hangar	05-241	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	78U	76UJ		78U												
Yakutat Hangar	05-241	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	92	100J		120J												
Yakutat Hangar	05-241	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	59U	57UJ														
Yakutat Hangar	05-241	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	78U	76UJ														
Yakutat Hangar	05-241	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U		20U												
Yakutat Hangar	05-241	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
Yakutat Hangar	05-241	Groundwater	TPH	DRO	ug/l		160U	150UJ		160UJ												
Yakutat Hangar	05-241	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U												
Yakutat Hangar	05-241	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U												
Yakutat Hangar	05-241	Groundwater	VOA	BTEX (total)	ug/l	0.8U																
Yakutat Hangar	05-241	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U		0.2U												
Yakutat Hangar	05-241	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U		0.4U												
Yakutat Hangar	05-241	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U												
Yakutat Hangar	05-241	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U												
Yakutat Hangar	05-241	Groundwater	VOA	Xylenes (total)	ug/l	0.8U																
Yakutat Hangar	05-243	Groundwater	TPH	DRO	ug/l												160U					
Yakutat Hangar	05-244	Groundwater	TPH	DRO	ug/l												240					113J
Yakutat Hangar	05-244	Groundwater	TPH	GRO	ug/l												41J					
Yakutat Hangar	05-244	Groundwater	VOA	Benzene	ug/l												1U					
Yakutat Hangar	05-244	Groundwater	VOA	Ethylbenzene	ug/l												1.6					

Summary of Historical Analytical Results 1999 through 2005
Groundwater
Non-Landfill Sites
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Reference	Matrix	Method Class	Analyte	Units	8/99	11/99	12/00	5/00	6/00	7/00	7/11	9/11	10/11	3/11	7/11	8/11	10/11	9/11	10/11	9/11	9/11
Yakutat Hangar	05-244	Groundwater	VOA	Toluene	ug/l												1U					
Yakutat Hangar	05-244	Groundwater	VOA	Xylenes	ug/l												1.7J					
Yakutat Hangar	05-250	Groundwater	TPH	DRO	ug/l												160U					238U
Yakutat Hangar	05-389	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	77U	79UJ		78U												
Yakutat Hangar	05-389	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	98	97J		78UJ												
Yakutat Hangar	05-389	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	58U	59UJ														
Yakutat Hangar	05-389	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	77U	79UJ														
Yakutat Hangar	05-389	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U		20U												
Yakutat Hangar	05-389	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
Yakutat Hangar	05-389	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
Yakutat Hangar	05-389	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
Yakutat Hangar	05-389	Groundwater	TPH	DRO	ug/l		170	160UJ		160UJ				568U				410	310		294	314J
Yakutat Hangar	05-389	Groundwater	TPH	GRO	ug/l	20U	27	20U		20U				90U				35J	58		43.8UJ	
Yakutat Hangar	05-389	Groundwater	TPH	RRO	ug/l									1140U				210J				
Yakutat Hangar	05-389	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U				0.5U					2U		0.15J	
Yakutat Hangar	05-389	Groundwater	VOA	BTEX (total)	ug/l	0.8U	0.2															
Yakutat Hangar	05-389	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U		0.2U				2U					2U		0.38J	
Yakutat Hangar	05-389	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U		0.4U				2U					0.63J			
Yakutat Hangar	05-389	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l														2U			
Yakutat Hangar	05-389	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U				2U					2U			
Yakutat Hangar	05-389	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U				2U					2U		0.5U	
Yakutat Hangar	05-389	Groundwater	VOA	Xylenes	ug/l																0.33J	
Yakutat Hangar	05-389	Groundwater	VOA	Xylenes (total)	ug/l	0.8U	0.2															
Yakutat Hangar	05-801	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	76U	83UJ		76U												
Yakutat Hangar	05-801	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	76U	83UJ		76UJ												
Yakutat Hangar	05-801	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	57U	62UJ														
Yakutat Hangar	05-801	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	76U	83UJ														
Yakutat Hangar	05-801	Groundwater	TPH	C6-C9 Aliphatics	ug/l	20U	20UJ	20U		20U												
Yakutat Hangar	05-801	Groundwater	TPH	C6-C9 Aromatics	ug/l	20U	20U	20U		20U												
Yakutat Hangar	05-801	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l									90U								
Yakutat Hangar	05-801	Groundwater	TPH	GRO - Aromatic Fraction	ug/l									30U								
Yakutat Hangar	05-801	Groundwater	TPH	DRO	ug/l		150U	170UJ		150UJ				543U				160U	110U		250U	238U
Yakutat Hangar	05-801	Groundwater	TPH	GRO	ug/l	20U	20U	20U		20U				90U				7.4J	10J		80U	
Yakutat Hangar	05-801	Groundwater	TPH	RRO	ug/l									1090U				280U				
Yakutat Hangar	05-801	Groundwater	VOA	Aggregate TPH	ug/l					0.2												
Yakutat Hangar	05-801	Groundwater	VOA	Benzene	ug/l	0.4U	0.2U	0.2U		0.2U				0.5U					2U		0.5U	
Yakutat Hangar	05-801	Groundwater	VOA	BTEX (total)	ug/l	0.8U				0.2												
Yakutat Hangar	05-801	Groundwater	VOA	Ethylbenzene	ug/l	0.4U	0.2U	0.2U		0.2U				2U					2U		0.5U	
Yakutat Hangar	05-801	Groundwater	VOA	m,p-Xylene	ug/l	0.8U	0.4U	0.4U		0.4U				2U					2U			
Yakutat Hangar	05-801	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l														2U			
Yakutat Hangar	05-801	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U				2U					2U			
Yakutat Hangar	05-801	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U				2U					2U		0.5U	
Yakutat Hangar	05-801	Groundwater	VOA	Xylenes	ug/l																1U	
Yakutat Hangar	05-801	Groundwater	VOA	Xylenes (total)	ug/l	0.8U				0.2												
Yakutat Hangar	05-802	Groundwater	TPH	C10-C24 Aliphatics	ug/l	100U	80U	78UJ		78U												
Yakutat Hangar	05-802	Groundwater	TPH	C10-C24 Aromatics	ug/l	100U	80U	130J		78UJ												
Yakutat Hangar	05-802	Groundwater	TPH	C25-C36 Aliphatics	ug/l	100U	60U	58UJ														
Yakutat Hangar	05-802	Groundwater	TPH	C25-C36 Aromatics	ug/l	100U	80U	78UJ														
Yakutat Hangar	05-802	Groundwater	TPH	C6-C9 Aliphatics	ug/l	64	45J	110		30												
Yakutat Hangar	05-802	Groundwater	TPH	C6-C9 Aromatics	ug/l	25	20U	54		20U												
Yakutat Hangar	05-802	Groundwater	TPH	DRO	ug/l		160U	170J		160UJ												
Yakutat Hangar	05-802	Groundwater	TPH	GRO	ug/l	89	60	170		33												
Yakutat Hangar	05-802	Groundwater	VOA	Benzene	ug/l	0.88	0.28J	1.6J		0.2U												
Yakutat Hangar	05-802	Groundwater	VOA	BTEX (total)	ug/l	2.68																
Yakutat Hangar	05-802	Groundwater	VOA	Ethylbenzene	ug/l	0.5	0.3	0.61J		0.2U												
Yakutat Hangar	05-802	Groundwater	VOA	m,p-Xylene	ug/l	1.3	0.75	1.6		0.4U												
Yakutat Hangar	05-802	Groundwater	VOA	o-Xylene	ug/l	0.4U	0.2U	0.2U		0.2U												
Yakutat Hangar	05-802	Groundwater	VOA	Toluene	ug/l	0.6U	0.3U	0.3U		0.3U												
Yakutat Hangar	05-802	Groundwater	VOA	Xylenes (total)	ug/l	1.3																
Yakutat Hangar	MW-2 (05-255)	Groundwater	TPH	DRO - Aliphatic Fraction	ug/l												110J					
Yakutat Hangar	MW-2 (05-255)	Groundwater	TPH	DRO - Aromatic Fraction	ug/l												350					
Yakutat Hangar	MW-2 (05-255)	Groundwater	TPH	GRO - Aliphatic Fraction	ug/l												22J					
Yakutat Hangar	MW-2 (05-255)	Groundwater	TPH	GRO - Aromatic Fraction	ug/l												150					
Yakutat Hangar	MW-2 (05-255)	Groundwater	TPH	DRO	ug/l												3700					4650J
Yakutat Hangar	MW-2 (05-255)	Groundwater	TPH	GRO	ug/l												170					
Yakutat Hangar	MW-2 (05-255)	Groundwater	VOA	Benzene	ug/l												1.2					
Yakutat Hangar	MW-2 (05-255)	Groundwater	VOA	Ethylbenzene	ug/l												7.3					
Yakutat Hangar	MW-2 (05-255)	Groundwater	VOA	Toluene	ug/l												1					
Yakutat Hangar	MW-2 (05-255)	Groundwater	VOA	Xylenes	ug/l												16					

Notes:
J - estimated value
NJ - analyte tentatively identified and concentration is estimated.
U - not detected, value shown is the reporting limit.
UJ - estimated reporting limit
ug/l - milligrams per liter

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-1	Groundwater	DIN	Aluminum	ug/l	63 U	50 U	50 U		132	222		21.7	14.4	10.5						
13	MW13-1	Groundwater	DIN	Antimony	ug/l	5 U	5 U	5 U		0.046 U	0.087 U		0.5 U	0.112	0.213	1 U	1 U	0.48 UJ	0.10 J		
13	MW13-1	Groundwater	DIN	Arsenic	ug/l	2 U	2.8	2.3		3.6	6.2		7.75	5.55	5.18	4.74	4.83	4.5	4.94	4.80	4.87
13	MW13-1	Groundwater	DIN	Barium	ug/l	11.7 J	12.1 J	9.1 J		10.2 J	13 J		13.8	9.05	9.13	11.8	12.9	12.6		11.3	9.84
13	MW13-1	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	0.28 U		0.5 U	0.15 U	0.15 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-1	Groundwater	DIN	Cadmium	ug/l	3.5 J	1 U	1 U		0.047 U	0.053 U		2 U	0.2 U	0.2 U	1 U	0.1 U	0.23	0.020 U		
13	MW13-1	Groundwater	DIN	Calcium	ug/l	34800	42800	32300		46300	73400		77100	50400	64000						
13	MW13-1	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 U	20.5		14.2	1.44	2.54	1 U	1 U	1.0 U	0.86 J		
13	MW13-1	Groundwater	DIN	Cobalt	ug/l	5 U	5 U	5 U		2.9 U	0.49 J		0.4 U	0.5 U	3.15						
13	MW13-1	Groundwater	DIN	Copper	ug/l	3.4 J	2 U	2 U		2.1 U	2.5 J		3 U	0.32	4.71 J	2 U	1.62 J	1.3 J	0.34		
13	MW13-1	Groundwater	DIN	Iron	ug/l	4470	10500	9120 J		14900	21600		27500	13200	13000						
13	MW13-1	Groundwater	DIN	Lead	ug/l	2 U	2 U	1 U		0.019 U	0.28 J		0.3 U	0.113	0.425	1 U	1 U	0.075 U	0.030 U		
13	MW13-1	Groundwater	DIN	Magnesium	ug/l	14800	15800	11500		15200	25400		24800	17400	17000						
13	MW13-1	Groundwater	DIN	Manganese	ug/l	1180	1380	1080		1500	2540		2940	1840	1430						
13	MW13-1	Groundwater	DIN	Mercury	ug/l	0.25 J	0.2 U	0.2 UJ		0.1 U	0.2 U		0.2 U		0.2 U	0.24	0.0659 J	0.0715 J	0.20 U		
13	MW13-1	Groundwater	DIN	Nickel	ug/l	5 U	5 U	5 U		3.6 U	17.2 J		1.62	1.71	2.39	1.07 UJ	1.26 J	2.8	1.90		
13	MW13-1	Groundwater	DIN	Potassium	ug/l	5880	6260	6050 J		5930	7970		8140	7300	8200						
13	MW13-1	Groundwater	DIN	Selenium	ug/l	3 U	3 U	2 U		1.2 J	3.4		2.5 U	0.541	2.51	1 U	2 U	1.6 UJ	1.7 J		
13	MW13-1	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U		1 U	0.1 U	0.1 U	1 U	1 U	0.085 U	0.030 U		
13	MW13-1	Groundwater	DIN	Sodium	ug/l	78600	77100	66100		58500	94900			85400	110000						
13	MW13-1	Groundwater	DIN	Thallium	ug/l	3 UJ	3 U	2 U		0.008 U	0.012 U		0.5 U	0.05 U	0.0503	1 U	1 U	0.044 U	0.020 U		
13	MW13-1	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		2 U	2.5 J		10 U	5 U	7.54						
13	MW13-1	Groundwater	DIN	Zinc	ug/l	5 U	5 U	5 U		7.5 J	7		10 U	9.19	4.69	5 U	1.88 J	4.5 J	1.78 J		
13	MW13-1	Groundwater	P/A	4,4-DDD	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	4,4-DDE	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	4,4-DDT	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	Aldrin	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.0092 U							
13	MW13-1	Groundwater	P/A	alpha-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.011 U							
13	MW13-1	Groundwater	P/A	alpha-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.01 U							
13	MW13-1	Groundwater	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U		0.217 U	0.2 U		0.109 U	0.52 U							
13	MW13-1	Groundwater	P/A	Aroclor 1221	ug/l	0.4 U	0.4 U	0.4 U		0.435 U	0.4 U		0.109 U	0.52 U							
13	MW13-1	Groundwater	P/A	Aroclor 1232	ug/l	0.2 U	0.2 U	0.2 U		0.217 U	0.2 U		0.109 U	0.52 U							
13	MW13-1	Groundwater	P/A	Aroclor 1242	ug/l	0.2 U	0.2 U	0.2 U		0.217 U	0.2 U		0.109 U	0.52 U							
13	MW13-1	Groundwater	P/A	Aroclor 1248	ug/l	0.2 U	0.2 U	0.2 U		0.217 U	0.2 U		0.109 U	0.52 U							
13	MW13-1	Groundwater	P/A	Aroclor 1254	ug/l	0.2 U	0.2 U	0.2 U		0.217 U	0.2 U		0.109 U	0.52 U							
13	MW13-1	Groundwater	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U		0.217 U	0.2 U		0.109 U	0.52 U							
13	MW13-1	Groundwater	P/A	beta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.012 U							
13	MW13-1	Groundwater	P/A	Chlordane	ug/l									0.01 U							
13	MW13-1	Groundwater	P/A	Chlordane (total)	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U											
13	MW13-1	Groundwater	P/A	DDT (total)	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U											
13	MW13-1	Groundwater	P/A	delta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.011 U							
13	MW13-1	Groundwater	P/A	Dieldrin	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	Endosulfan (total)	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U											
13	MW13-1	Groundwater	P/A	Endosulfan I	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	Endosulfan II	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	Endosulfan sulfate	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	Endrin	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.021 U							
13	MW13-1	Groundwater	P/A	Endrin Aldehyde	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U	0.022 U							
13	MW13-1	Groundwater	P/A	Endrin ketone	ug/l	0.02 U	0.02 U	0.02 U		0.0217 U	0.02 U		0.033 U								
13	MW13-1	Groundwater	P/A	gamma-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.01 U							
13	MW13-1	Groundwater	P/A	Heptachlor	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.019 U							
13	MW13-1	Groundwater	P/A	Heptachlor epoxide	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.0088 U							
13	MW13-1	Groundwater	P/A	Lindane	ug/l	0.01 U	0.01 U	0.01 U		0.0109 U	0.01 U		0.033 U	0.01 U							
13	MW13-1	Groundwater	P/A	Methoxychlor	ug/l	0.1 U	0.1 UJ	0.1 UJ		0.109 U	0.1 U		0.033 U	0.052 U							
13	MW13-1	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l	0.4 U	0.4 U	0.4 U		0.435 U											
13	MW13-1	Groundwater	P/A	Toxaphene	ug/l	1 U	1 U	1 U		1.09 U	1 U		2.7 U	0.52 U							
13	MW13-1	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U					29 U		5.1 U						
13	MW13-1	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l								23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l								23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l								23 U								
13	MW13-1	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U		23 U		5.1 U						

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-1	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		26 U						
13	MW13-1	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		22 U	20 U		210 U		100 U						
13	MW13-1	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		5 U	5 U		29 U		10 U						
13	MW13-1	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 U		5 U	5 U		29 U	0.051 U	0.058 U					0.0053 J	
13	MW13-1	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U		23 U		100 U						
13	MW13-1	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 UJ		5 U	5 U		23 U		20 U						
13	MW13-1	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U		23 U		51 U						
13	MW13-1	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		22 U	20 U		210 U		26 U						
13	MW13-1	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										20 U						
13	MW13-1	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		5 U	5 U				5.1 U						
13	MW13-1	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U		23 U		51 U						
13	MW13-1	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 UJ		22 U	20 U		160 U		100 U						
13	MW13-1	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1.1 U	1 U		29 U	0.051 U	0.058 U	0.1 U				0.049	
13	MW13-1	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1.1 U	2 U		23 U	0.051 U	0.058 U					0.020 U	
13	MW13-1	Groundwater	SVOA	Aniline	ug/l								23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.1 U	0.5 U		0.11 U	0.1 U		23 U	0.3 U	0.35 U	0.1 U				0.018 J	
13	MW13-1	Groundwater	SVOA	Azobenzene	ug/l								230 U								
13	MW13-1	Groundwater	SVOA	Benzidine	ug/l										200 U						
13	MW13-1	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.11 U	0.1 U		23 U	0.051 U	0.058 U					0.020 U	
13	MW13-1	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.11 U	0.1 U		23 U	0.064 U	0.073 U	0.1 U				0.020 U	
13	MW13-1	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.11 U	0.2 U		23 U	0.051 U	0.058 U	0.1 U				0.020 U	
13	MW13-1	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.11 U	0.2 U		29 U	0.091 U	0.058 U	0.1 U				0.020 U	
13	MW13-1	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.11 U	0.1 U		29 U	0.1 U	0.058 U	0.1 U				0.020 U	
13	MW13-1	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.11 U											
13	MW13-1	Groundwater	SVOA	Benzoic acid	ug/l								57 U		130 U						
13	MW13-1	Groundwater	SVOA	Benzyl alcohol	ug/l								23 U		10 U						
13	MW13-1	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		5 U	5 U		29 U		5.1 U						
13	MW13-1	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW13-1	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	1	1 U	1 U		5 U	0.72 J		23 U		5.1 U	0.583 UJ		0.50 U		3.3	
13	MW13-1	Groundwater	SVOA	Butylbenzylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.054 U	0.1 U		23 U	0.051 U	0.058 U					0.020 U	
13	MW13-1	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.54 U											
13	MW13-1	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.54 U	0.2 U		29 U	0.15 U	0.058 U					0.020 U	
13	MW13-1	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Di-n-octylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.54 U	0.2 U		23 U	0.051 U	0.058 U	0.0572 J				0.025	
13	MW13-1	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.11 U	0.1 U		23 U	0.12 U	0.058 U	0.1 U				0.020 U	
13	MW13-1	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U	5 U					
13	MW13-1	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		5 U	5 U		34 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		5 U	5 U		34 U		10 U	10 UJ					
13	MW13-1	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.54 U											
13	MW13-1	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.11 U	0.1 U		23 U	0.2 U	0.058 U					0.020 U	
13	MW13-1	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		5 U	5 U		29 U		5.1 U						
13	MW13-1	Groundwater	SVOA	LPAH (total)	ug/l	1 U	1 U	0.5 U		2.2 U											
13	MW13-1	Groundwater	SVOA	m,p-Cresols	ug/l								23 U								
13	MW13-1	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2.2 U	1 U		23 U	0.24 U	0.28 U	0.1 U				0.086	

Summary of Chemicals Detected 1996 through 2010
Groundwater
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Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-1	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	1 U	1 U		5 U											
13	MW13-1	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								23 U								
13	MW13-1	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		5.1 U						
13	MW13-1	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		5 U	5 U		23 U		10 U						
13	MW13-1	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U		160 U		5.1 U	1 U					
13	MW13-1	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.11 U	0.1 U		23 U	0.051 U	0.058 U					0.020 U	
13	MW13-1	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 U		5 U	5 U		11 U		5.1 U						
13	MW13-1	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.11 U	0.1 U		23 U	0.051 U	0.058 U	0.1 U				0.0039 J	
13	MW13-1	Groundwater	TIN	Aluminum	ug/l	259 UJ	52.4 J	50 U	267	132	47.6 J		95.2	25.8	50.2						
13	MW13-1	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	0.046 U	0.087 U		1 U	0.5 U	0.5 U	1 U	1 U	0.41 UJ	0.05 J		
13	MW13-1	Groundwater	TIN	Arsenic	ug/l	2 UJ	2.5	2.5	3.5	3.5	6.4		7.24	5.35	6.44	5.4	7.86	5.3	5.25	5.50	5.04
13	MW13-1	Groundwater	TIN	Barium	ug/l	8.9 J	10.1 J	8.5 J	9.1	10.2 J	13.4 J		15.3	9.58	9.5	12	13.6	13.6 J		11.6	9.86
13	MW13-1	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.26 U	0.33 U	0.28 U		1 U	0.5 U	0.5 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-1	Groundwater	TIN	Cadmium	ug/l	1 U	1 U	1 U	0.057 UJ	0.047 U	0.053 U		2 U	0.2 U	0.2 U	1 U	0.1 U	0.094 U	0.023 J		
13	MW13-1	Groundwater	TIN	Calcium	ug/l	34200	42900	32200	40200	46300	61700		76700	49500							
13	MW13-1	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	4 UJ	6.4 U	3.8 J		6.11	0.223	0.432 J	1 U	1 U	1.0 U	0.67 J		
13	MW13-1	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	4 U	2.9 U	0.5 J		0.8 U	0.169	0.214						
13	MW13-1	Groundwater	TIN	Copper	ug/l	2.5 J	2 U	2 U	4 UJ	2.1 U	1.3 J		6 U	0.5 U	0.5 U	2 U	1.09 J	1.4 J	0.45		
13	MW13-1	Groundwater	TIN	Iron	ug/l	6510 J	10900	9230	10900	14900	21700		27300	13900							
13	MW13-1	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	2 U	0.019 U	0.39 J		2 U	0.15 U	0.15 U	1 U	1 U	0.075 U	0.063		
13	MW13-1	Groundwater	TIN	Magnesium	ug/l	14700	16000	11400	14300	15200	21800		26300	18300							
13	MW13-1	Groundwater	TIN	Manganese	ug/l	1180	1400	1070	1490	1500	2590		2920	1890	1410						
13	MW13-1	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.1 U	0.13 J	0.2 U		0.2 U	0.2 U	0.2 U	0.202	0.157 J	0.0180 UJ	0.20 U		
13	MW13-1	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	4 U	3.6 U	3 J		2 U	1.84	2.29	2.86 J	1.25 J	2.9	1.65		
13	MW13-1	Groundwater	TIN	Potassium	ug/l	5760	6100	5930 J	6190	5930	6860		8090	7420							
13	MW13-1	Groundwater	TIN	Selenium	ug/l	3 U	3 U	2 U	3 U	0.76 J	3.4		5 U	0.568	0.573	1.28 U	2 U	1.8 UJ	2.7 J		
13	MW13-1	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U		2 U	0.35 U	2.05 J	1 U	1 U	0.085 U	0.030 U		
13	MW13-1	Groundwater	TIN	Sodium	ug/l	78400	76600	64900	76200	58500	83100			93900							
13	MW13-1	Groundwater	TIN	Thallium	ug/l	3 UJ	3 U	2 U	10 U	0.43 J	0.012 U		1.09	0.25 U	0.25 U	1 U	1 U	0.044 U	0.020 U		
13	MW13-1	Groundwater	TIN	Vanadium	ug/l	5 U	5 U	5 U	3 UJ	2 U	2.8 J		20 U	2.04	2.67						
13	MW13-1	Groundwater	TIN	Zinc	ug/l	5 U	5 U	5 U	44.7 U	7.5	2.8 J		25 U	6.65	1.34	5 U	2.47 J	5.0 U	2.00 J		
13	MW13-1	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW13-1	Groundwater	VOA	1,1-Dichloroethane	ug/l	0.26 J	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 UJ	1 UJ	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	1,1-Dichloropropene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					10 U	1 U			2 U	2 U	0.57 J		1.0 U		2.0 U	
13	MW13-1	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			10 U	10 U	5 UJ		1.0 U		2.0 U	
13	MW13-1	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-1	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	10 U	1 U			2 U	2 U	0.19 J		1.0 U		0.20 J	
13	MW13-1	Groundwater	VOA	1,3-Dichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U												
13	MW13-1	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	2,2-Dichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	2-Butanone	ug/l	5 UJ	5 U	5 U		50 U	5 U			50 U	50 U	10 UJ		5.0 U			
13	MW13-1	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10 U	10 U						
13	MW13-1	Groundwater	VOA	2-Chlorotoluene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	2-Hexanone	ug/l	5 UJ	5 U	5 U	5 U	50 U	5 U			20 U	20 U	10 UJ		5.0 U			
13	MW13-1	Groundwater	VOA	4-Chlorotoluene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	4-Isopropyltoluene	ug/l									2 U	2 U	2 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 UJ	5 U	5 U	5 U	50 U	5 U			20 U	20 U	5 UJ		5.0 U			

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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-1	Groundwater	VOA	Acetone	ug/l	5 UJ	5 U	5 U		50 U	5 U			50 U	50 U	25 UJ		1.9 J		20 UJ	
13	MW13-1	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW13-1	Groundwater	VOA	Benzene	ug/l	0.2 UJ	0.34	0.2 U	1 U	0.2 U	1 U			2 U	2 U	1 UJ		1.0 U		0.26 J	
13	MW13-1	Groundwater	VOA	Bromobenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Bromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Bromodichloromethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Bromoform	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Bromomethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			5 U	5 U	5 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	BTEX (total)	ug/l	0.2 U	0.34	0.2 U	1 U	0.4 U											
13	MW13-1	Groundwater	VOA	Carbon disulfide	ug/l	1 UJ	1 U	1 U	6	10 U	1 U			2 U	1.2 J	10 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Carbon tetrachloride	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Chlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Chloroethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			5 U	5 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Chloroform	ug/l	1 UJ	1 U	1 U	1 U	1.1 J	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Chloromethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			5 U	5 U	5 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	0.36 J	1 U	0.56 J	0.62 J	1.7 J	1 U			0.6 J	0.51 J	0.24 J		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Dibromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Dibromomethane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Dichlorodifluoromethane	ug/l									5 U	5 U	5 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Ethylbenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.2 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Hexachlorobutadiene	ug/l									2 U	2 U	4 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW13-1	Groundwater	VOA	Isopropylbenzene	ug/l									2 U	2 U	2 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	m,p-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U						2 U	0.39 J	2 UJ		2.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Methylene chloride	ug/l	2 UJ	1 U	1 U	2 U	7.1 J	2 U			5 U	0.97 U	5 UJ		1.0 U		2.0 U	
13	MW13-1	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW13-1	Groundwater	VOA	Naphthalene	ug/l									2 U	0.88 J	2 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	n-Butylbenzene	ug/l									2 U	2 U	5 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	n-Propylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	o-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U		0.2 U				2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	sec-Butylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Styrene	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	tert-Butylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Tetrachloroethene	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Toluene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.3 U	1 U			2 U	2 U	1 UJ		1.0 U		0.62 U	
13	MW13-1	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW13-1	Groundwater	VOA	Trichloroethene	ug/l	1.4 J	0.2 J	0.78 J	0.71 J	5.2 J	1 U			1.1 J	0.72 J	0.37 J		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Trichlorofluoromethane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-1	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW13-1	Groundwater	VOA	Vinyl chloride	ug/l	1 UJ	1 U	1 U	1 U	10 U	1 U			2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW13-1	Groundwater	VOA	Xylenes	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	10 U	1 U									1.0 U	
13	MW13-1	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.4 U										1.0 U	
13	MW13-2	Groundwater	DIN	Aluminum	ug/l	50 U	78.7 J	50 U		410	43 U	80.6 U	9.89	2.62	3.66						
13	MW13-2	Groundwater	DIN	Antimony	ug/l	5 U	5 U	5 U		0.046 U	0.087 U	1.6 U	0.5 U	0.125	0.151 J	1 U	1 U	0.056 U	0.10 J		
13	MW13-2	Groundwater	DIN	Arsenic	ug/l	2.9 J	4.7 J	2 U		0.53 J	3.8	2.9 U	3.98	1.3	3.19	4.57	6.3	7.7	7.59	7.19	8.54
13	MW13-2	Groundwater	DIN	Barium	ug/l	8.8 J	5 U	5 U		5.1 J	2.8 J	3 J	2.87	2.71	2.06	2.65	2.8	2.4 J		4.24	1.98
13	MW13-2	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	0.28 U	0.6 U	0.5 U	0.15 U	0.15 U	1 U	1 U	0.043 U	0.434		
13	MW13-2	Groundwater	DIN	Cadmium	ug/l	1 U	1 U	1 U		0.047 U	0.9 J	0.3 U	2 U	0.2 U	0.2 U	1 U	0.1 U	0.14 J	0.036 J		
13	MW13-2	Groundwater	DIN	Calcium	ug/l	21600	12800	17100		17300	20500	19500	19900	20400	23000						
13	MW13-2	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 U	2.7 J	0.4 U	5.02	1.53	4.08	1 U	1 U	1.0 U	0.73 J		
13	MW13-2	Groundwater	DIN	Cobalt	ug/l	5 U	5 U	5 U		2.9 U	0.043 U	0.5 U	0.4 U	0.5 U	1.28						
13	MW13-2	Groundwater	DIN	Copper	ug/l	2 U	3.6 J	2 U		2.1 U	3.1 J	1.1 U	3 U	1.89	2.05 J	1.95 J	1.5 J	2.0 J	2.60		
13	MW13-2	Groundwater	DIN	Iron	ug/l	20 U	34.4 J	20 U		262	34.7 J	12.8 U	1000 U	50 U	330						
13	MW13-2	Groundwater	DIN	Lead	ug/l	2 U	2 U	1 U		0.019 U	0.11 J	1.6 U	0.3 U	0.1 U	0.133	1 UJ	1 U	0.075 U	3.170		
13	MW13-2	Groundwater	DIN	Magnesium	ug/l	24300	9720	15700		15000	15200	14200	13200	14700	13000						
13	MW13-2	Groundwater	DIN	Manganese	ug/l	249	22.5	4.5 J		35.7	1.2 J	0.9 J	10 U	0.974	9.22						
13	MW13-2	Groundwater	DIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ		0.1 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW13-2	Groundwater	DIN	Nickel	ug/l	5 U	5 U	5 U		3.6 U	2.4 J	0.7 U	1.16	0.786	0.931	0.5 J	0.554 J	1.1 J	2.02		

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						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-2	Groundwater	DIN	Potassium	ug/l	11200	5860	6740 J		5860	5930	5820 J	6160	4800	5100						
13	MW13-2	Groundwater	DIN	Selenium	ug/l	3 U	3 U	2 U		0.93 J	3.4	1.1 U	2.5 U	0.5 U	0.958 J	1 U	2 U	2.0 U	5.2 J		
13	MW13-2	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U	0.7 U	1 U	0.1 U	0.1 U	1 U	1 U	0.085 U	0.030 U		
13	MW13-2	Groundwater	DIN	Sodium	ug/l	188000	68400	74900		69400	60000	61100 J		47600	51000						
13	MW13-2	Groundwater	DIN	Thallium	ug/l	3 UJ	3 U	2 U		0.008 U	0.012 U	3.5 U	0.5 U	0.05 U	0.052	1 U	1 U	0.044 U	0.020 U		
13	MW13-2	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		2 U	1.4 J	0.5 J	10 U	5 U	6.37						
13	MW13-2	Groundwater	DIN	Zinc	ug/l	5 U	8.6 J	5 U		5.6 J	6.3	5.1 U	10 U	10.5	1.6	5 U	5 U	5.0 UJ	13.7		
13	MW13-2	Groundwater	P/A	4,4-DDD	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	4,4-DDE	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	4,4-DDT	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	Aldrin	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.0092 U							
13	MW13-2	Groundwater	P/A	alpha-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.011 U							
13	MW13-2	Groundwater	P/A	alpha-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.01 U							
13	MW13-2	Groundwater	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U		0.22 U	0.2 U	0.2 U	0.119 U	0.52 U							
13	MW13-2	Groundwater	P/A	Aroclor 1221	ug/l	0.4 U	0.4 U	0.4 U		0.44 U	0.4 U	0.4 U	0.119 U	0.52 U							
13	MW13-2	Groundwater	P/A	Aroclor 1232	ug/l	0.2 U	0.2 U	0.2 U		0.22 U	0.2 U	0.2 U	0.119 U	0.52 U							
13	MW13-2	Groundwater	P/A	Aroclor 1242	ug/l	0.2 U	0.2 U	0.2 U		0.22 U	0.2 U	0.2 U	0.119 U	0.52 U							
13	MW13-2	Groundwater	P/A	Aroclor 1248	ug/l	0.2 U	0.2 U	0.2 U		0.22 U	0.2 U	0.2 U	0.119 U	0.52 U							
13	MW13-2	Groundwater	P/A	Aroclor 1254	ug/l	0.2 U	0.2 U	0.2 U		0.22 U	0.2 U	0.2 U	0.119 U	0.52 U							
13	MW13-2	Groundwater	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U		0.22 U	0.2 U	0.2 U	0.119 U	0.52 U							
13	MW13-2	Groundwater	P/A	beta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.013 U							
13	MW13-2	Groundwater	P/A	Chlordane	ug/l									0.01 U							
13	MW13-2	Groundwater	P/A	Chlordane (total)	ug/l	0.01 U	0.01 U	0.01 U		0.011 U											
13	MW13-2	Groundwater	P/A	DDT (total)	ug/l	0.02 U	0.02 U	0.02 U		0.022 U											
13	MW13-2	Groundwater	P/A	delta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.011 U							
13	MW13-2	Groundwater	P/A	Dieldrin	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	Endosulfan (total)	ug/l	0.02 U	0.02 U	0.02 U		0.022 U											
13	MW13-2	Groundwater	P/A	Endosulfan I	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	Endosulfan II	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	Endosulfan sulfate	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	Endrin	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.021 U							
13	MW13-2	Groundwater	P/A	Endrin Aldehyde	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U	0.022 U							
13	MW13-2	Groundwater	P/A	Endrin ketone	ug/l	0.02 U	0.02 U	0.02 U		0.022 U	0.02 U	0.02 U	0.036 U								
13	MW13-2	Groundwater	P/A	gamma-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.01 U							
13	MW13-2	Groundwater	P/A	Heptachlor	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.019 U							
13	MW13-2	Groundwater	P/A	Heptachlor epoxide	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.0088 U							
13	MW13-2	Groundwater	P/A	Lindane	ug/l	0.01 U	0.01 U	0.01 U		0.011 U	0.01 U	0.01 U	0.036 U	0.01 U							
13	MW13-2	Groundwater	P/A	Methoxychlor	ug/l	0.1 U	0.1 UJ	0.1 UJ		0.11 U	0.1 U	0.1 U	0.036 U	0.052 U							
13	MW13-2	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l	0.4 U	0.4 U	0.4 U		0.44 U											
13	MW13-2	Groundwater	P/A	Toxaphene	ug/l	1 U	1 U	1 U		1.1 U	1 U	1 U	3 U	0.52 U							
13	MW13-2	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U				5 U	27 U		5.1 U						
13	MW13-2	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l							5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l							5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l							5 U	22 U								
13	MW13-2	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		26 U						
13	MW13-2	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		22 U	20 U	10 U	200 U		100 U						
13	MW13-2	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	27 U		10 U						
13	MW13-2	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	27 U	0.051 U	0.054 U					0.0087 J	
13	MW13-2	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	22 U		100 U						
13	MW13-2	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 UJ		6 U	5 U	5 U	22 U		20 U						
13	MW13-2	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	22 U		51 U						
13	MW13-2	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	200 U		26 U						
13	MW13-2	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						

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Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-2	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										20 U						
13	MW13-2	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		6 U	5 U	5 U			5.1 U						
13	MW13-2	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	22 U		51 U						
13	MW13-2	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 UJ		22 U	20 U	5 U	150 U		100 U						
13	MW13-2	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1.1 U	1 U	1 U	27 U	0.051 U	0.054 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1.1 U	2 U	2 U	22 U	0.051 U	0.054 U					0.020 U	
13	MW13-2	Groundwater	SVOA	Aniline	ug/l								22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.1 U	0.5 U		0.11 U	0.1 U	0.1 U	22 U	0.3 U	0.33 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	Azobenzene	ug/l								220 U								
13	MW13-2	Groundwater	SVOA	Benzidine	ug/l										200 U						
13	MW13-2	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.11 U	0.1 U	0.1 U	22 U	0.051 U	0.054 U					0.020 U	
13	MW13-2	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.11 U	0.1 U	0.1 U	22 U	0.064 U	0.068 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.11 U	0.2 U	0.2 U	22 U	0.051 U	0.054 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.11 U	0.2 U	0.2 U	27 U	0.091 U	0.054 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.11 U	0.1 U	0.1 U	27 U	0.1 U	0.054 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.11 U											
13	MW13-2	Groundwater	SVOA	Benzoic acid	ug/l								55 U		130 U						
13	MW13-2	Groundwater	SVOA	Benzyl alcohol	ug/l								22 U		10 U						
13	MW13-2	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	27 U		5.1 U						
13	MW13-2	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW13-2	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	33	1 U	1 U		6 U	0.43 J	5 J	22 U		5.1 U	0.571 UJ		0.50 U		2.0 U	
13	MW13-2	Groundwater	SVOA	Butylbenzylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Carbazole	ug/l							5 U									
13	MW13-2	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.055 U	0.1 U	0.1 U	22 U	0.051 U	0.054 U					0.020 U	
13	MW13-2	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.55 U											
13	MW13-2	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.55 U	0.2 U	0.2 U	27 U	0.15 U	0.054 U					0.020 U	
13	MW13-2	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Di-n-octylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.55 U	0.2 U	0.2 U	22 U	0.051 U	0.054 U	0.1 U				0.015 J	
13	MW13-2	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.11 U	0.1 U	0.1 U	22 U	0.12 U	0.054 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U	5 U					
13	MW13-2	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	33 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		6 U	5 U	5 U	33 U		10 U	10 UJ					
13	MW13-2	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.55 U											
13	MW13-2	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.11 U	0.1 U	0.1 U	22 U	0.2 U	0.054 U					0.020 U	
13	MW13-2	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	27 U		5.1 U						
13	MW13-2	Groundwater	SVOA	m,p-Cresols	ug/l								22 U								
13	MW13-2	Groundwater	SVOA	LPAH (total)	ug/l	1 U	1 U	0.5 U		2.2 U											
13	MW13-2	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2.2 U	1 U	1 U	22 U	0.24 U	0.26 U	0.1 U				0.020 U	
13	MW13-2	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	1 U	1 U		6 U											
13	MW13-2	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								22 U								
13	MW13-2	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW13-2	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		10 U						
13	MW13-2	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	150 U		5.1 U	1 U					
13	MW13-2	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.11 U	0.1 U	0.1 U	22 U	0.051 U	0.054 U					0.020 U	
13	MW13-2	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	11 U		5.1 U						
13	MW13-2	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.11 U	0.1 U	0.1 U	22 U	0.051 U	0.054 U	0.1 U				0.015 J	
13	MW13-2	Groundwater	TIN	Aluminum	ug/l	5990 J	3650	418	164 U	410	290	102 J	1120	40.1	109						
13	MW13-2	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	0.046 U	0.087 U	1.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.056 U	0.10 J		
13	MW13-2	Groundwater	TIN	Arsenic	ug/l	3.6 J	5.4 J	2 U	3.6	0.75 J	3.5	2.9 U	5 U	1.36	3.02	5.07	6.51	7.2	7.44	7.85	11
13	MW13-2	Groundwater	TIN	Barium	ug/l	23 J	11.3 J	5.6 J	3.9	5.1 J	3.6 J	4.6 J	5.67	2.96	2.39	12.1	7.72	7.3 J		45.3	36.5
13	MW13-2	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.26 U	0.33 U	0.28 U	0.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.043 U	1.120		
13	MW13-2	Groundwater	TIN	Cadmium	ug/l	1 U	1 U	1 U	0.057 UJ	0.047 U	0.053 U	0.3 U	2 U	0.2 U	0.2 U	1 U	0.07 J	0.47	0.074 J		

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Groundwater
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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-2	Groundwater	TIN	Calcium	ug/l	23700	14200	17200	21000	17300	19800	19400	21000	19500							
13	MW13-2	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	4 UJ	6.4 U	14.9	0.6 J	6 U	0.291	0.546 J	1.68 U	1 U	1.0 U	1.18		
13	MW13-2	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	4 U	2.9 U	0.18 J	0.5 U	1.15	0.153	0.207						
13	MW13-2	Groundwater	TIN	Copper	ug/l	12.7 J	9.5 J	2.1 J	4 UJ	2.1 U	7.3	1.8 J	6 U	2.22	0.5 U	5.54 J	3.72	3.5	4.48		
13	MW13-2	Groundwater	TIN	Iron	ug/l	3380 J	2000	278	290	262	264	225	1000 U	50 U							
13	MW13-2	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	2 U	0.019 U	0.14 J	1.6 U	2 U	0.15 U	0.15 U	0.68 UJ	0.3 J	0.23 J	8.880		
13	MW13-2	Groundwater	TIN	Magnesium	ug/l	25900	10700	15500	32200	15000	14400	13700	14300	15400							
13	MW13-2	Groundwater	TIN	Manganese	ug/l	600	245	49	2.6 J	35.7	25.8	11.2 J	112	12	18.7						
13	MW13-2	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.1 U	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW13-2	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	4 U	3.6 U	2.4 J	1.3 J	2 U	0.886	0.914	1.36 J	0.908 J	1.4 J	2.53		
13	MW13-2	Groundwater	TIN	Potassium	ug/l	11400	5900	6470 J	15100	5860	5560	5550 J	6080	4630							
13	MW13-2	Groundwater	TIN	Selenium	ug/l	3 U	3 U	2 U	7.9	0.99 J	1.2 J	1.1 U	5 U	0.538	0.5 U	1 U	2 U	0.71 UJ	5.6 J		
13	MW13-2	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U	0.7 U	2 U	0.35 U	1.18 J	1 U	1 U	0.085 U	0.034		
13	MW13-2	Groundwater	TIN	Sodium	ug/l	185000	67100	71900	307000	69400	55300	58000 J		49600							
13	MW13-2	Groundwater	TIN	Thallium	ug/l	3 UJ	3 U	2 U	10 U	0.008 U	0.012 U	3.5 U	1 U	0.25 U	0.25 U	1 U	1 U	0.044 U	0.030		
13	MW13-2	Groundwater	TIN	Vanadium	ug/l	6.4 J	7.6 J	5 U	3 UJ	2 U	2.3 J	0.8 J	20 U	1.03	2.05						
13	MW13-2	Groundwater	TIN	Zinc	ug/l	13.4 J	10.4 J	5 U	20.8 U	5.6	7.4	6.1 J	25 U	8.55	1.2	11.5 U	2.92 J	5.0 U	29.9		
13	MW13-2	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW13-2	Groundwater	VOA	1,1-Dichloroethane	ug/l	0.3 J	0.48 J	0.27 J	1 U	0.61 J	1 U	1 U		2 U	2 U	0.33 J		1.0 U		0.42 J	
13	MW13-2	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U		2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	1,1-Dichloropropene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					1 U	1 U			2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-2	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U			10 U	10 U	5 UJ		1.0 U		2.0 U	
13	MW13-2	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-2	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	1,3-Dichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U											
13	MW13-2	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	2,2-Dichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	2-Butanone	ug/l	5 UJ	5 U	5 U		5 U	5 U	5 U		50 U	50 U	10 UJ		5.0 U			
13	MW13-2	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10 U	10 U						
13	MW13-2	Groundwater	VOA	2-Chlorotoluene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	2-Hexanone	ug/l	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U		20 U	20 U	10 UJ		5.0 U			
13	MW13-2	Groundwater	VOA	4-Chlorotoluene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	4-Isopropyltoluene	ug/l									2 U	2 U	2 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U		20 U	20 U	5 UJ		5.0 U			
13	MW13-2	Groundwater	VOA	Acetone	ug/l	5 UJ	5 U	5 U		5 U	5 U	5 U		50 U	50 U	25 UJ		1.3 J		20 UJ	
13	MW13-2	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW13-2	Groundwater	VOA	Benzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Bromobenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Bromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Bromodichloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Bromoform	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Bromomethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		5 U	5 U	5 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	BTEX (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U											
13	MW13-2	Groundwater	VOA	Carbon disulfide	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	10 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Carbon tetrachloride	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Chlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Chloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		5 U	5 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Chloroform	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Chloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		5 U	5 U	5 UJ		1.0 UJ		0.50 U	

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Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-2	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	1 UJ	0.57 J	1 U	1.5	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Dibromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Dibromomethane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1 U		5 U	5 U	5 UJ		1.0 UJ			
13	MW13-2	Groundwater	VOA	Ethylbenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Hexachlorobutadiene	ug/l									2 U	2 U	4 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW13-2	Groundwater	VOA	Isopropylbenzene	ug/l									2 U	2 U	2 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	m,p-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U				0.9 J		2 U	2 U	2 UJ		2.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Methylene chloride	ug/l	2 UJ	1 U	1 U	2 U	2 U	2 U	1 U		5 U	0.76 U	5 UJ		1.0 U		0.16 J	
13	MW13-2	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW13-2	Groundwater	VOA	Naphthalene	ug/l									2 U	2 U	2 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	n-Butylbenzene	ug/l									2 U	2 U	5 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	n-Propylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	o-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U		0.2 U		1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	sec-Butylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Styrene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	tert-Butylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Tetrachloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Toluene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.3 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		1.1 U	
13	MW13-2	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW13-2	Groundwater	VOA	Trichloroethene	ug/l	0.5 J	1.3	0.23 J	2.4	0.16 J	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Trichlorofluoromethane	ug/l							1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-2	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW13-2	Groundwater	VOA	Vinyl chloride	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW13-2	Groundwater	VOA	Xylenes	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U									1.0 U	
13	MW13-2	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U										1.0 U	
13	MW13-3	Groundwater	DIN	Aluminum	ug/l	50 U	50 U	69.6 J		140	1080	80.6 U	12.6	18.8	2.43						
13	MW13-3	Groundwater	DIN	Antimony	ug/l	5.9 J	5 U	5 U		0.046 U	1.9 J	1.6 U	0.5 U	0.612	0.48	1 UJ	0.377 J	0.18 UJ	0.34		
13	MW13-3	Groundwater	DIN	Arsenic	ug/l	2 U	2 U	2 U		0.19 U	4.3 J	2.9 J	2.09	1.53	0.929	1 U	0.49 J	0.56 J	0.97	0.60 U	1.16
13	MW13-3	Groundwater	DIN	Barium	ug/l	5 U	5 U	5 U		1.2 J	1.2 J	3.2 J	1.58	3.02	2.86	1.59	1.52	2.6		1.11	3.94
13	MW13-3	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	2.3	0.6 U	0.5 U	0.15 U	0.15 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-3	Groundwater	DIN	Cadmium	ug/l	1 U	1 U	1 U		0.047 U	6.6	0.3 U	2 U	0.2 U	0.2 U	1 U	0.1 U	0.16	0.020 UJ		
13	MW13-3	Groundwater	DIN	Calcium	ug/l	25200	8170	5860		12900	21500	28300	17500	27500	37000						
13	MW13-3	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 U	0.6 U	0.5 J	4.44	1.75	5.86	1 U	1 U	1.0 U	0.36 J		
13	MW13-3	Groundwater	DIN	Cobalt	ug/l	5 U	5 U	5 U		2.9 U	4.6 J	0.5 U	0.4 U	0.5 U	3.5						
13	MW13-3	Groundwater	DIN	Copper	ug/l	3.5 J	2.1 J	2 U		2.1 U	5.2	2.8 J	3 U	3.21	5.48	3.03	2.26	3.1	1.96		
13	MW13-3	Groundwater	DIN	Iron	ug/l	219 U	25 J	58.7 J		240	1060	21.4 J	1000 U	50 U	740						
13	MW13-3	Groundwater	DIN	Lead	ug/l	2 U	2 U	1 U		0.019 U	0.12 J	1.6 U	0.3 U	0.1 U	0.301	1 U	1 U	0.075 U	0.030 U		
13	MW13-3	Groundwater	DIN	Magnesium	ug/l	13100	4700	3770		6110	7870	9880	8040	9960	19000						
13	MW13-3	Groundwater	DIN	Manganese	ug/l	300	5.7 J	5.9 J		10.1	7.9 J	3.1 J	13.7	3.89	274						
13	MW13-3	Groundwater	DIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ		0.1 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW13-3	Groundwater	DIN	Nickel	ug/l	5 U	5 U	5 U		3.6 U	1.1 U	0.7 U	1 U	1.08	1.58	0.65 J	0.383 J	1.1 J	0.49		
13	MW13-3	Groundwater	DIN	Potassium	ug/l	6470	4470	4480 J		3920	4640	5320 J	5040	4330	8600						
13	MW13-3	Groundwater	DIN	Selenium	ug/l	3 U	3 U	2 U		0.78 J	4	1.5 J	2.5 U	0.767	1.7	1 U	2 U	1.0 UJ	1.2 J		
13	MW13-3	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U	0.7 U	1 U	0.1 U	0.1 U	1 U	1 U	0.085 U	0.030 U		
13	MW13-3	Groundwater	DIN	Sodium	ug/l	58000	56300	56500		45100	44200	42400 J		40300	110000						
13	MW13-3	Groundwater	DIN	Thallium	ug/l	3 UJ	3 U	2 U		0.008 U	0.6 J	3.5 U	0.5 U	0.05 U	0.123	1 U	1 U	0.044 U	0.020 U		
13	MW13-3	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		2 U	0.9 J	1.3 J	10 U	5 U	5 U						
13	MW13-3	Groundwater	DIN	Zinc	ug/l	5 U	5 U	5 U		6.7 J	3.5 J	5.1 U	17.7	7.4	4.64	2.48 J	1.5 J	2.5 J	1.02 J		
13	MW13-3	Groundwater	P/A	4,4-DDD	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	4,4-DDE	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	4,4-DDT	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	Aldrin	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.0092 U							
13	MW13-3	Groundwater	P/A	alpha-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.011 U							
13	MW13-3	Groundwater	P/A	alpha-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.01 U							
13	MW13-3	Groundwater	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.105 U	0.52 U							
13	MW13-3	Groundwater	P/A	Aroclor 1221	ug/l	0.4 U	0.4 U	0.4 U		0.4 U	0.4 U	0.39 U	0.105 U	0.52 U							

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						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-3	Groundwater	P/A	Aroclor 1232	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.105 U	0.52 U							
13	MW13-3	Groundwater	P/A	Aroclor 1242	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.105 U	0.52 U							
13	MW13-3	Groundwater	P/A	Aroclor 1248	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.105 U	0.52 U							
13	MW13-3	Groundwater	P/A	Aroclor 1254	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.105 U	0.52 U							
13	MW13-3	Groundwater	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.105 U	0.52 U							
13	MW13-3	Groundwater	P/A	beta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.013 U							
13	MW13-3	Groundwater	P/A	Chlordane	ug/l									0.01 U							
13	MW13-3	Groundwater	P/A	Chlordane (total)	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01										
13	MW13-3	Groundwater	P/A	DDT (total)	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02										
13	MW13-3	Groundwater	P/A	delta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.011 U							
13	MW13-3	Groundwater	P/A	Dieldrin	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	Endosulfan (total)	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.01										
13	MW13-3	Groundwater	P/A	Endosulfan I	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	Endosulfan II	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	Endosulfan sulfate	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	Endrin	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.021 U							
13	MW13-3	Groundwater	P/A	Endrin Aldehyde	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U	0.022 U							
13	MW13-3	Groundwater	P/A	Endrin ketone	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.032 U								
13	MW13-3	Groundwater	P/A	gamma-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.01 U							
13	MW13-3	Groundwater	P/A	Heptachlor	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.019 U							
13	MW13-3	Groundwater	P/A	Heptachlor epoxide	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.0088 U							
13	MW13-3	Groundwater	P/A	Lindane	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.0098 U	0.032 U	0.01 U							
13	MW13-3	Groundwater	P/A	Methoxychlor	ug/l	0.1 U	0.1 UJ	0.1 UJ		0.1 U	0.1 U	0.098 U	0.032 U	0.052 U							
13	MW13-3	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l	0.4 U	0.4 U	0.4 U		0.4 U	0.2										
13	MW13-3	Groundwater	P/A	Toxaphene	ug/l	1 U	1 U	1 U		1 U	1 U	0.98 U	2.6 U	0.52 U							
13	MW13-3	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U				5 U	27 U		5.1 U						
13	MW13-3	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l							5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l							5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l							5 U	22 U								
13	MW13-3	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		26 U						
13	MW13-3	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		20 U	20 U	10 U	200 U		100 U						
13	MW13-3	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	27 U		10 U						
13	MW13-3	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	27 U	0.051 U	0.053 U					0.0080 J	
13	MW13-3	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	22 U		100 U						
13	MW13-3	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 UJ		5 U	5 U	5 U	22 U		20 U						
13	MW13-3	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	22 U		51 U						
13	MW13-3	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	200 U		26 U						
13	MW13-3	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										20 U						
13	MW13-3	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		5 U	5 U	5 U			5.1 U						
13	MW13-3	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	22 U		51 U						
13	MW13-3	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 UJ		20 U	20 U	5 U	150 U		100 U						
13	MW13-3	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1 U	1 U	1.1 U	27 U	0.051 U	0.053 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1 U	2 U	2.1 U	22 U	0.051 U	0.053 U					0.019 U	
13	MW13-3	Groundwater	SVOA	Aniline	ug/l								22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.1 U	0.5 U		0.1 U	0.1 U	0.11 U	22 U	0.3 U	0.32 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	Azobenzene	ug/l								220 U								
13	MW13-3	Groundwater	SVOA	Benzidine	ug/l										200 U						
13	MW13-3	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.1 U	0.1 U	0.11 U	22 U	0.051 U	0.053 U					0.019 U	
13	MW13-3	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.1 U	0.1 U	0.11 U	22 U	0.064 U	0.067 U	0.1 U				0.019 U	

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-3	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.1 U	0.2 U	0.21 U	22 U	0.051 U	0.053 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.1 U	0.2 U	0.21 U	27 U	0.091 U	0.053 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.1 U	0.1 U	0.11 U	27 U	0.1 U	0.053 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.1 U	0.1										
13	MW13-3	Groundwater	SVOA	Benzoic acid	ug/l								55 U		130 U						
13	MW13-3	Groundwater	SVOA	Benzyl alcohol	ug/l								22 U		10 U						
13	MW13-3	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	27 U		5.1 U						
13	MW13-3	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW13-3	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	8	1 U	1 U		2 J	5 U	4 J	22 U		5.1 U	0.727 UJ		0.51 U		1.9 U	
13	MW13-3	Groundwater	SVOA	Butylbenzylphthalate	ug/l	11	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Carbazole	ug/l							5 U									
13	MW13-3	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.052 U	0.1 U	0.11 U	22 U	0.051 U	0.053 U					0.019 U	
13	MW13-3	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.52 U	0.1										
13	MW13-3	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.52 U	0.2 U	0.21 U	27 U	0.15 U	0.053 U					0.019 U	
13	MW13-3	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Di-n-octylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.52 U	0.2 U	0.21 U	22 U	0.051 U	0.053 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.1 U	0.1 U	0.11 U	22 U	0.12 U	0.053 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U	5 U					
13	MW13-3	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	33 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		5 U	5 U	5 U	33 U		10 U	10 UJ					
13	MW13-3	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.52 U	0.1										
13	MW13-3	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.1 U	0.1 U	0.11 U	22 U	0.2 U	0.053 U					0.019 U	
13	MW13-3	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	27 U		5.1 U						
13	MW13-3	Groundwater	SVOA	m,p-Cresols	ug/l								22 U								
13	MW13-3	Groundwater	SVOA	LPAH (total)	ug/l	1 U	1 U	0.5 U		2.1 U	0.1										
13	MW13-3	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2.1 U	1 U	1.1 U	22 U	0.24 U	0.26 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	1 U	1 U		5 U	0.1										
13	MW13-3	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								22 U								
13	MW13-3	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.1 U						
13	MW13-3	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		10 U						
13	MW13-3	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	150 U		5.1 U	1 U					
13	MW13-3	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.1 U	0.1 U	0.11 U	22 U	0.051 U	0.053 U					0.019 U	
13	MW13-3	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	11 U		5.1 U						
13	MW13-3	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.1 U	0.1 U	0.11 U	22 U	0.051 U	0.053 U	0.1 U				0.019 U	
13	MW13-3	Groundwater	TIN	Aluminum	ug/l	50 UJ	724	1130	544	140	695	113 J	1020	133	269						
13	MW13-3	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	0.046 U	2.1 J	1.6 U	1 U	0.5 U	0.5 U	1 U	0.335 J	0.24 UJ	0.37		
13	MW13-3	Groundwater	TIN	Arsenic	ug/l	2 UJ	2 U	2 U	2 U	0.19 U	1.2 J	2.9 U	5 U	1.51	1.36	1 U	0.54 J	0.75 J	1.27	0.58 U	1.34
13	MW13-3	Groundwater	TIN	Barium	ug/l	5 U	5 U	6.6 J	4	1.2 J	2.5 J	3.7 J	3.87	3.33	3.41	2.55	3.4	4.2 J		1.16	4.3
13	MW13-3	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.26 U	0.33 U	0.28 U	0.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-3	Groundwater	TIN	Cadmium	ug/l	1 U	1 U	1 U	0.057 UJ	0.047 U	0.71 J	0.3 U	2 U	0.2 U	0.2 U	1 U	0.1 U	0.094 U	0.021 J		
13	MW13-3	Groundwater	TIN	Calcium	ug/l	24900	8730	6300	34200	12900	11300	27100	19900	25400							
13	MW13-3	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	4 UJ	6.4 U	1.1 J	0.5 J	8.55	0.278	0.456	1 U	1 U	1.0 U	0.58 J		
13	MW13-3	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	4 U	2.9 U	0.12 J	0.5 J	0.8 U	0.1 U	0.212						
13	MW13-3	Groundwater	TIN	Copper	ug/l	2 U	4.6 J	4.5 J	7.2 J	2.1 U	4.9 J	3.1 J	6.13	3.67	3.32	4.1	5.58	3.5	3.87		
13	MW13-3	Groundwater	TIN	Iron	ug/l	546 J	470	696	796	240	390	342	1000 U	77.7							
13	MW13-3	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	2 U	0.019 U	0.35 J	1.6 U	2 U	0.201	0.351	1 U	1 U	0.076 J	0.540		
13	MW13-3	Groundwater	TIN	Magnesium	ug/l	12900	5100	3960	19600	6110	5520	9400	9290	9790							
13	MW13-3	Groundwater	TIN	Manganese	ug/l	297	31.2	14.2	244	10.1	17.8	11 J	48.7	11.7	233						
13	MW13-3	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.22	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW13-3	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	4 U	3.6 U	1.1 U	2.1 J	7.25	1.06	1.67	1.11 J	0.7 J	1.2 J	0.74		
13	MW13-3	Groundwater	TIN	Potassium	ug/l	6280	4500	4450 J	8900	3920	4190	4990 J	5140	4000							
13	MW13-3	Groundwater	TIN	Selenium	ug/l	3 U	3 U	2 U	3.3	0.67 J	1.6 J	1.1 U	5 U	0.771	1.35	1.01 U	2 U	1.2 UJ	1.7 J		
13	MW13-3	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U	1 U	0.085 U	0.030 U		
13	MW13-3	Groundwater	TIN	Sodium	ug/l	56000	57000	55800	133000	45100	44600	40400 J		44100							
13	MW13-3	Groundwater	TIN	Thallium	ug/l	3 UJ	3 UJ	2 U	10 U	0.008 U	0.29 J	3.5 U	1 U	0.25 U	0.25 U	1 U	1 U	0.044 U	0.020 U		

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration 7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-3	Groundwater	TIN	Vanadium	ug/l	5 U	5 U	5 U	3 UJ	2 U	1.6 J	1.4 J	20 U	2.14	1.71						
13	MW13-3	Groundwater	TIN	Zinc	ug/l	5 U	7.1 J	7.5 J	26.9 U	6.7	4.9 J	8.3 J	25 U	6.2	4.76	1.96 J	3.56 J	5.0 U	4.30		
13	MW13-3	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW13-3	Groundwater	VOA	1,1-Dichloroethane	ug/l	0.44 J	1 U	1 U	1.7	0.13 J	1 U	1 U		2 U	2 U	0.52 J		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,1-Dichloropropene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					1 U	1 U			2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-3	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U			10 U	10 U	5 UJ		1.0 U		2.0 U	
13	MW13-3	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-3	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U			2 U	2 U	0.25 J		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	1,3-Dichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1										
13	MW13-3	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	2,2-Dichloropropane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	2-Butanone	ug/l	5 UJ	5 U	5 U		5 U	5 U	5 U		50 U	50 U	10 UJ		5.0 U			
13	MW13-3	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10 U	10 U						
13	MW13-3	Groundwater	VOA	2-Chlorotoluene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	2-Hexanone	ug/l	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U		20 U	20 U	10 UJ		5.0 U			
13	MW13-3	Groundwater	VOA	4-Chlorotoluene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	4-Isopropyltoluene	ug/l									2 U	2 U	2 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U		20 U	20 U	5 UJ		5.0 U			
13	MW13-3	Groundwater	VOA	Acetone	ug/l	5 UJ	5 U	5 U		5 U	5 U	5 U		50 U	3.2 J	25 UJ		3.6 J		20 UJ	
13	MW13-3	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW13-3	Groundwater	VOA	Benzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Bromobenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Bromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U			2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Bromodichloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Bromoform	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Bromomethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		5 U	5 U	5 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	BTEX (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1										
13	MW13-3	Groundwater	VOA	Carbon disulfide	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	10 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Carbon tetrachloride	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Chlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Chloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		5 U	5 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Chloroform	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Chloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		5 U	5 U	5 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Dibromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Dibromomethane	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1 U		5 U	5 U	5 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Ethylbenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Hexachlorobutadiene	ug/l									2 U	2 U	4 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW13-3	Groundwater	VOA	Isopropylbenzene	ug/l									2 U	2 U	2 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	m,p-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U				1 U		2 U	0.42 J	2 UJ		2.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Methylene chloride	ug/l	2 UJ	1 U	1 U	2 U	2 U	2 U	1 U		5 U	5 UJ	5 UJ		1.0 U		2.0 U	
13	MW13-3	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW13-3	Groundwater	VOA	Naphthalene	ug/l									2 U	38	2 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	n-Butylbenzene	ug/l									2 U	2 U	5 UJ		1.0 U			

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Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-3	Groundwater	VOA	n-Propylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	o-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U		0.2 U		1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	sec-Butylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Styrene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	tert-Butylbenzene	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Tetrachloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Toluene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.3 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		1.2 U	
13	MW13-3	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW13-3	Groundwater	VOA	Trichloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Trichlorofluoromethane	ug/l							1 U		2 U	2 U	1 UJ		1.0 U			
13	MW13-3	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW13-3	Groundwater	VOA	Vinyl chloride	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U		2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW13-3	Groundwater	VOA	Xylenes	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U									1.0 U	
13	MW13-3	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1									1.0 U	
13	MW13-4	Groundwater	DIN	Aluminum	ug/l	50 U	50 U	50 U		51.4 J	43 U		8.79	1.75	1.87						
13	MW13-4	Groundwater	DIN	Antimony	ug/l	8.3 J	5 U	5 U		0.31 J	0.76 J		0.835	0.872	2.93	1.67 UJ	4.02		1.48		
13	MW13-4	Groundwater	DIN	Arsenic	ug/l	2 U	2 U	2 U		0.19 U	0.81 J		2 U	1.06	3.07	1.07 UJ	0.54 J	1.7	3.72	1.23	1.42
13	MW13-4	Groundwater	DIN	Barium	ug/l	5.3 J	5 U	5.2 J		1.9 J	2.1 J		2.42	1.73	6.04	2.26	2.8	4.2 J		1.97	2.95
13	MW13-4	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	0.28 U		0.5 U	0.15 U	0.15 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-4	Groundwater	DIN	Cadmium	ug/l	1 U	1 U	1 U		0.047 U	5.2		2 U	0.2 U	0.2 U	1 U	0.04 J	0.33 J	0.054		
13	MW13-4	Groundwater	DIN	Calcium	ug/l	22600	12800	15600		6480	14800		13500	14500	60000						
13	MW13-4	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 U	0.6 U		9.99	2.92	6.5	1.05 UJ	1 U	1.0 U	0.83 J		
13	MW13-4	Groundwater	DIN	Cobalt	ug/l	5 U	5 U	5 U		2.9 U	0.11 J		0.4 U	0.5 U	3.92						
13	MW13-4	Groundwater	DIN	Copper	ug/l	4.7 J	3.9 J	3.7 J		2.1 U	4.4 J		3.3	2.85	5.18	3.44	3.21	8.1 J	3.09		
13	MW13-4	Groundwater	DIN	Iron	ug/l	20 U	20 U	20 U		164	15 J		1000 U	50 U	50 U						
13	MW13-4	Groundwater	DIN	Lead	ug/l	2 U	2 U	1 U		0.019 U	0.078 J		0.3 U	0.1 U	0.251	1 U	1 U	0.078 J	0.030 U		
13	MW13-4	Groundwater	DIN	Magnesium	ug/l	29200	16700	20800		8700	18000		14900	17000	58000						
13	MW13-4	Groundwater	DIN	Manganese	ug/l	3.8 J	2 U	2 U		2.6 J	0.7 J		10 U	0.219	6.04						
13	MW13-4	Groundwater	DIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ		0.1 U	0.2 U		0.2 U		0.2 U	0.2 U	0.2 U	0.129 J	0.20 U		
13	MW13-4	Groundwater	DIN	Nickel	ug/l	5 U	5 U	5 U		3.6 U	1.1 U		1 U	0.641	2.61	0.54 UJ	0.725 J	0.99 J	0.78		
13	MW13-4	Groundwater	DIN	Potassium	ug/l	15600	12200	21800 J		8900	12000		11100	11400	24000						
13	MW13-4	Groundwater	DIN	Selenium	ug/l	3 U	3 U	2 U		2 J	2.1 J		2.5 U	1.41	10.2	2.77	2 U	4.9 J	10.3 J		
13	MW13-4	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U		1 U	0.1 U	0.1 U	1 U	1 U	0.085 U	0.030 U		
13	MW13-4	Groundwater	DIN	Sodium	ug/l	223000	146000	260000		145000	135000			150000	440000						
13	MW13-4	Groundwater	DIN	Thallium	ug/l	3 UJ	3 UJ	2 U		0.008 U	0.15 J		0.5 U	0.05 U	0.13	1 U	1 U	0.044 U	0.020 U		
13	MW13-4	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		2 U	2.7 J		10 U	5 U	7.07						
13	MW13-4	Groundwater	DIN	Zinc	ug/l	5 U	11.3 J	5 U		10.5 J	4.1 J		10 U	8.97	10.4	5.73	4.5 J	9.1 J	5.32		
13	MW13-4	Groundwater	P/A	4,4-DDD	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.02 U							
13	MW13-4	Groundwater	P/A	4,4-DDE	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.02 U							
13	MW13-4	Groundwater	P/A	4,4-DDT	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.02 U							
13	MW13-4	Groundwater	P/A	Aldrin	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.009 U							
13	MW13-4	Groundwater	P/A	alpha-BHC	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.011 U							
13	MW13-4	Groundwater	P/A	alpha-Chlordane	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.01 U							
13	MW13-4	Groundwater	P/A	Aroclor 1016	ug/l		0.2 U	0.2 U		0.204 U	0.2 U		0.114 U	0.51 U							
13	MW13-4	Groundwater	P/A	Aroclor 1221	ug/l		0.4 U	0.4 U		0.408 U	0.4 U		0.114 U	0.51 U							
13	MW13-4	Groundwater	P/A	Aroclor 1232	ug/l		0.2 U	0.2 U		0.204 U	0.2 U		0.114 U	0.51 U							
13	MW13-4	Groundwater	P/A	Aroclor 1242	ug/l		0.2 U	0.2 U		0.204 U	0.2 U		0.114 U	0.51 U							
13	MW13-4	Groundwater	P/A	Aroclor 1248	ug/l		0.2 U	0.2 U		0.204 U	0.2 U		0.114 U	0.51 U							
13	MW13-4	Groundwater	P/A	Aroclor 1254	ug/l		0.2 U	0.2 U		0.204 U	0.2 U		0.114 U	0.51 U							
13	MW13-4	Groundwater	P/A	Aroclor 1260	ug/l		0.2 U	0.2 U		0.204 U	0.2 U		0.114 U	0.51 U							
13	MW13-4	Groundwater	P/A	beta-BHC	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.012 U							
13	MW13-4	Groundwater	P/A	Chlordane	ug/l									0.01 U							
13	MW13-4	Groundwater	P/A	Chlordane (total)	ug/l		0.01 U	0.01 U		0.0102 U											
13	MW13-4	Groundwater	P/A	DDT (total)	ug/l		0.02 U	0.02 U		0.0204 U											
13	MW13-4	Groundwater	P/A	delta-BHC	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.01 U							
13	MW13-4	Groundwater	P/A	Dieldrin	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.02 U							
13	MW13-4	Groundwater	P/A	Endosulfan (total)	ug/l		0.02 U	0.02 U		0.0204 U											
13	MW13-4	Groundwater	P/A	Endosulfan I	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.02 U							
13	MW13-4	Groundwater	P/A	Endosulfan II	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.02 U							
13	MW13-4	Groundwater	P/A	Endosulfan sulfate	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.02 U							

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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-4	Groundwater	P/A	Endrin	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.02 U							
13	MW13-4	Groundwater	P/A	Endrin Aldehyde	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U	0.021 U							
13	MW13-4	Groundwater	P/A	Endrin ketone	ug/l		0.02 U	0.02 U		0.0204 U	0.02 U		0.034 U								
13	MW13-4	Groundwater	P/A	gamma-Chlordane	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.01 U							
13	MW13-4	Groundwater	P/A	Heptachlor	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.019 U							
13	MW13-4	Groundwater	P/A	Heptachlor epoxide	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.0086 U							
13	MW13-4	Groundwater	P/A	Lindane	ug/l		0.01 U	0.01 U		0.0102 U	0.01 U		0.034 U	0.01 U							
13	MW13-4	Groundwater	P/A	Methoxychlor	ug/l		0.1 UJ	0.1 UJ		0.102 U	0.1 U		0.034 U	0.051 U							
13	MW13-4	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l		0.4 U	0.4 U		0.408 U											
13	MW13-4	Groundwater	P/A	Toxaphene	ug/l		1 U	1 U		1.02 U	1 U		2.8 U	0.51 U							
13	MW13-4	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U					30 U		5.1 U						
13	MW13-4	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l								24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l								24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l								24 U								
13	MW13-4	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 UJ		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		26 U						
13	MW13-4	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		22 U	20 U		210 U		100 U						
13	MW13-4	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		6 U	5 U		30 U		10 U						
13	MW13-4	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 UJ		6 U	5 U		30 U	0.051 U	0.057 U					0.0069 J	
13	MW13-4	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 UJ		22 U	20 U		24 U		100 U						
13	MW13-4	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 U		6 U	5 U		24 U		20 U						
13	MW13-4	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U		24 U		51 U						
13	MW13-4	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		22 U	20 U		210 U		26 U						
13	MW13-4	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										20 U						
13	MW13-4	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		6 U	5 U				5.1 U						
13	MW13-4	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U		24 U		51 U						
13	MW13-4	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 U		22 U	20 U		170 U		100 U						
13	MW13-4	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1 U	1 U		30 U	0.051 U	0.057 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1 U	2 U		24 U	0.051 U	0.057 U					0.021 U	
13	MW13-4	Groundwater	SVOA	Aniline	ug/l								24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.1 U	0.5 U		0.1 U	0.1 U		24 U	0.31 U	0.34 U	0.1 U				0.0036 J	
13	MW13-4	Groundwater	SVOA	Azobenzene	ug/l								240 U								
13	MW13-4	Groundwater	SVOA	Benzidine	ug/l										200 U						
13	MW13-4	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.1 U	0.1 U		24 U	0.051 U	0.057 U					0.021 U	
13	MW13-4	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.1 U	0.1 U		24 U	0.064 U	0.072 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.1 U	0.2 U		24 U	0.051 U	0.057 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.1 U	0.2 U		30 U	0.092 U	0.057 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.1 U	0.1 U		30 U	0.1 U	0.057 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.1 U											
13	MW13-4	Groundwater	SVOA	Benzoic acid	ug/l								60 U		130 U						
13	MW13-4	Groundwater	SVOA	Benzyl alcohol	ug/l								24 U		10 U						
13	MW13-4	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		6 U	5 U		30 U		5.1 U						
13	MW13-4	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW13-4	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	3	1 U	6		6 U	5 U		24 U		5.1 U	0.818 UJ		0.48 U		2.0 U	
13	MW13-4	Groundwater	SVOA	Butylbenzylphthalate	ug/l	1 U	1 U	1 UJ		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.05 U	0.1 U		24 U	0.051 U	0.057 U					0.021 U	
13	MW13-4	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.5 U											
13	MW13-4	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.5 U	0.2 U		30 U	0.15 U	0.057 U					0.021 U	
13	MW13-4	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						

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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-4	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Di-n-octylphthalate	ug/l	1 U	1 U	1 UJ		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.5 U	0.2 U		24 U	0.051 U	0.057 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.1 U	0.1 U		24 U	0.12 U	0.057 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U	5 U					
13	MW13-4	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		6 U	5 U		36 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		6 U	5 U		36 U		10 UJ	10 UJ					
13	MW13-4	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.5 U											
13	MW13-4	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.1 U	0.1 U		24 U	0.2 U	0.057 U					0.021 U	
13	MW13-4	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		6 U	5 U		30 U		5.1 U						
13	MW13-4	Groundwater	SVOA	LPAH (total)	ug/l	1 U	1 U	0.5 U		2 U											
13	MW13-4	Groundwater	SVOA	m,p-Cresols	ug/l								24 U								
13	MW13-4	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2 U	1 U		24 U	0.24 U	0.27 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	1 U	1 U		6 U											
13	MW13-4	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								24 U								
13	MW13-4	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		5.1 U						
13	MW13-4	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		6 U	5 U		24 U		10 U						
13	MW13-4	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U		170 U		5.1 U	1 U					
13	MW13-4	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.1 U	0.1 U		24 U	0.051 U	0.057 U					0.021 U	
13	MW13-4	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 U		6 U	5 U		12 U		5.1 U						
13	MW13-4	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.1 U	0.1 U		24 U	0.051 U	0.057 U	0.1 U				0.021 U	
13	MW13-4	Groundwater	TIN	Aluminum	ug/l	98.5 UJ	95 J	68.2 J	28 U	51.4 J	1060		54.7	27.5	12						
13	MW13-4	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	0.33 J	1 J		1.42	0.893	2.9	1.49	4.08		1.52		
13	MW13-4	Groundwater	TIN	Arsenic	ug/l	2 UJ	2 U	2 U	3.5	0.19 U	1.3 J		5 U	1.42	3.79	1.23	0.57 J	2.0	5.93	1.47	1.82
13	MW13-4	Groundwater	TIN	Barium	ug/l	5 U	5 U	5 U	8.7	1.9 J	4.8 J		3 U	1.8	6.43	2.31	3.19	4.2 J		2.72	4.16
13	MW13-4	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.26 U	0.33 U	21.2		1 U	0.5 U	0.5 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-4	Groundwater	TIN	Cadmium	ug/l	1 U	1 U	1 U	0.057 UJ	0.047 U	0.73 J		2 U	0.2 U	0.2 U	1 U	0.05 J	0.094 U	0.063		
13	MW13-4	Groundwater	TIN	Calcium	ug/l	22800	12700	15500	60500	6480	16400		13800	14000							
13	MW13-4	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	4.4 J	6.4 U	0.7 J		6 U	0.265	0.738	1 U	1 U	1.0 U	0.95 J		
13	MW13-4	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	4 U	2.9 U	0.043 U		0.8 U	0.1 U	0.133						
13	MW13-4	Groundwater	TIN	Copper	ug/l	2.3 J	3.8 J	3.6 J	6.1 J	2.1 U	3.8 J		6 U	3.13	3.51	3.68	3.76	7.8	3.07		
13	MW13-4	Groundwater	TIN	Iron	ug/l	73.8 UJ	47.4 J	63.8 J	100 U	164	632		1000 U	50 U							
13	MW13-4	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	2 U	0.019 U	0.15 J		2 U	0.307	0.595	1 U	0.23 J	0.12 J	0.084		
13	MW13-4	Groundwater	TIN	Magnesium	ug/l	29400	16900	20500	72800	8700	16000		15500	17600							
13	MW13-4	Groundwater	TIN	Manganese	ug/l	12.6 J	4.6 J	4.8 J	1 UJ	2.6 J	4.8 J		4 U	2.88	3.77						
13	MW13-4	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.14	0.1 U	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW13-4	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	4 U	3.6 U	1.1 U		2 U	0.671	2.63	0.96 J	0.81 J	1.0 J	0.71		
13	MW13-4	Groundwater	TIN	Potassium	ug/l	15600	12100	21300 J	26600	8900	10700		11300	11700							
13	MW13-4	Groundwater	TIN	Selenium	ug/l	3 U	3 U	2.1 J	13.3	2.3 J	4		5 U	1.79	13.4	3.6	2 U	5.8	12.1 J		
13	MW13-4	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U		2 U	0.35 U	0.77	1 U	1 U	0.085 U	0.030 U		
13	MW13-4	Groundwater	TIN	Sodium	ug/l	225000	145000	260000	474000	145000	94600			159000							
13	MW13-4	Groundwater	TIN	Thallium	ug/l	3 UJ	3 UJ	2 U	10 U	0.008 U	0.16 J		1 U	0.25 U	0.25 U	1 U	1 U	0.044 U	0.020 U		
13	MW13-4	Groundwater	TIN	Vanadium	ug/l	5 U	5 U	5 U	3 UJ	2 U	2.7 J		20 U	3.44	6.82						
13	MW13-4	Groundwater	TIN	Zinc	ug/l	5.1 J	7.2 J	5 U	31 U	10.5	4.4 J		25 U	12.2	9.76	5.1	6.25 J	6.3	5.82		
13	MW13-4	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	0.26 J	0.2 J	0.24 J	1 U	0.24 J	1 U		1 U	2 U	2 U	0.17 J		1.0 U		0.15 J	
13	MW13-4	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		2 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW13-4	Groundwater	VOA	1,1-Dichloroethane	ug/l	2.4 J	2.2	2.3 J	1	3.1	4.2		3.18	2.3	2 U	2.82 J		1.8		2.2	
13	MW13-4	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 UJ	1 UJ	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	1,1-Dichloropropene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					1 U	1 U		2 U	2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-4	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		2.5 U	10 U	10 U	5 UJ		1.0 U		2.0 U	
13	MW13-4	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		2.0 U	

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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-4	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	1,3-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U											
13	MW13-4	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	2,2-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	2-Butanone	ug/l	5 UJ	5 U	5 U		5 U	5 U		50 U	50 U	50 U	10 UJ		5.0 U			
13	MW13-4	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10 U	10 U	10 U						
13	MW13-4	Groundwater	VOA	2-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	2-Hexanone	ug/l	5 UJ	5 U	5 U	5 U	5 U	5 U		10 U	20 U	20 U	10 UJ		5.0 U			
13	MW13-4	Groundwater	VOA	4-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	4-Isopropyltoluene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 UJ	5 U	5 U	5 U	5 U	5 U		10 U	20 U	20 U	5 UJ		5.0 U			
13	MW13-4	Groundwater	VOA	Acetone	ug/l	5 UJ	5 U	5 U		5 U	5 U			50 U	50 U	25 UJ		5.0 U		20UJ	
13	MW13-4	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW13-4	Groundwater	VOA	Benzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.2 U	1 U		0.5 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Bromobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Bromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Bromodichloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Bromoform	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Bromomethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		2 U	5 U	5 U	5 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	BTEX (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U											
13	MW13-4	Groundwater	VOA	Carbon disulfide	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		10 U	2 U	2 U	10 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Carbon tetrachloride	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Chlorobenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Chloroethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	5 U	5 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Chloroform	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Chloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	5 U	5 U	5 UJ		1.0 UJ		0.50 U	
13	MW13-4	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	0.23 J		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Dibromochloromethane	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Dibromomethane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Dichlorodifluoromethane	ug/l								1 U	5 U	5 U	5 UJ		1.0 UJ			
13	MW13-4	Groundwater	VOA	Ethylbenzene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.2 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Hexachlorobutadiene	ug/l								2 U	2 U	2 U	4 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW13-4	Groundwater	VOA	Isopropylbenzene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	m,p-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U						2 U	2 U	2 UJ		2.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Methylene chloride	ug/l	2 UJ	1 U	1 U	2 U	2 U	2 U		5 U	5 U	5 UJ	5 UJ		1.0 U		2.0 U	
13	MW13-4	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW13-4	Groundwater	VOA	Naphthalene	ug/l								2 U	2 U	2 U	2 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	n-Butylbenzene	ug/l								1 U	2 U	2 U	5 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	n-Propylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	o-Xylene	ug/l	0.2 UJ	0.2 U	0.2 U		0.2 U				2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	sec-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Styrene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	tert-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Tetrachloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Toluene	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	0.3 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW13-4	Groundwater	VOA	Trichloroethene	ug/l	1 UJ	0.4 J	0.2 J	1 U	0.2 J	1 U		1 U	2 U	2 U	0.25 J		1.0 U		0.20 J	
13	MW13-4	Groundwater	VOA	Trichlorofluoromethane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-4	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW13-4	Groundwater	VOA	Vinyl chloride	ug/l	1 UJ	1 U	1 U	1 U	1 U	1 U		2 U	2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW13-4	Groundwater	VOA	Xylenes	ug/l	0.2 UJ	0.2 U	0.2 U	1 U	1 U	1 U		2 U							1.0 U	
13	MW13-4	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U										1.0 U	

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-5	Groundwater	DIN	Aluminum	ug/l	50 U	50 U	50 U		27 U	1300	238	3.71	3.85	3.74						
13	MW13-5	Groundwater	DIN	Antimony	ug/l	7.8 J	5 U	5 U		1.2 J	3.8 J	2 J	1.27	1.82	1.94	1.77 UJ	1.8		1.78		
13	MW13-5	Groundwater	DIN	Arsenic	ug/l	2.1 J	2 U	2 U		0.38 J	0.87 J	2.9 U	2 U	1.18	1.42	0.88 UJ	0.72 J	1.3	1.72	1.06	1.55
13	MW13-5	Groundwater	DIN	Barium	ug/l	5 U	5 U	5 U		3.3 J	3.1 J	3.4 J	3.28	2.69	4.59	3.19	3.34	6.6 J		2.67	1.97
13	MW13-5	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	5.1	0.6 U	0.5 U	0.15 U	0.15 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-5	Groundwater	DIN	Cadmium	ug/l	1 U	1 U	1 U		0.047 U	3.9	0.3 U	2 U	0.2 U	0.2 U	1 U	0.1 U	0.42 J	0.038 J		
13	MW13-5	Groundwater	DIN	Calcium	ug/l	43800	35200	26400		48700	54400	45200	66500	53800	68000						
13	MW13-5	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 U	0.6 U	0.4 J	14	0.295	6.05	0.94 UJ	1 U	1.0 U	0.93 J		
13	MW13-5	Groundwater	DIN	Cobalt	ug/l	5 U	5 U	5 U		2.9 U	0.043 U	0.5 U	0.4 U	0.5 U	5.14						
13	MW13-5	Groundwater	DIN	Copper	ug/l	8.1 J	9.1 J	11.1		6.5 J	6.5	4.6 J	4.44	4.92	6.05	4.83	3.44	6.1 J	3.62		
13	MW13-5	Groundwater	DIN	Iron	ug/l	20 U	20 U	20 U		15.1	1340	17 J	1000 U	50 U	50 U						
13	MW13-5	Groundwater	DIN	Lead	ug/l	2 U	2 U	1 U		0.019 U	0.076 J	1.6 U	0.3 U	0.102	0.45	1 U	1 U	0.075 U	0.031		
13	MW13-5	Groundwater	DIN	Magnesium	ug/l	23100	16600	14200		25500	23300	24200	28800	23800	28000						
13	MW13-5	Groundwater	DIN	Manganese	ug/l	2 U	2 U	2 U		1.7 J	3.9 J	0.2 U	10 U	0.504	8.07						
13	MW13-5	Groundwater	DIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ		0.1 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW13-5	Groundwater	DIN	Nickel	ug/l	5 U	5 U	5 U		3.6 U	1.1 U	0.7 U	1.52	2.34	2.81	1.03 UJ	0.932 J	1.7 J	1.35		
13	MW13-5	Groundwater	DIN	Potassium	ug/l	9500	7660	15200 J		9170	7620	11600 J	8060	7120	8500						
13	MW13-5	Groundwater	DIN	Selenium	ug/l	3 U	3 U	2.4 J		1.7 J	1.9 J	1.4 J	2.5 U	0.666	2.31	1.92	2 U	2.9 J	2.6 J		
13	MW13-5	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U	0.7 U	1 U	0.225	0.1 U	1 U	1 U	0.085 U	0.030 U		
13	MW13-5	Groundwater	DIN	Sodium	ug/l	158000	101000	235000		103000	63100	84100 J		69600	120000						
13	MW13-5	Groundwater	DIN	Thallium	ug/l	3 UJ	3 U	2 U		0.69 J	0.14 J	3.5 U	0.5 U	0.05 U	0.104	1 U	1 U	0.044 U	0.020 U		
13	MW13-5	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		3.6 J	3.4 J	3.1 J	10 U	5 U	5 U						
13	MW13-5	Groundwater	DIN	Zinc	ug/l	5 U	7 J	6.3 J		9.6 J	5.8	108	31.9	7.43	6.38	4.83 J	3.92 J	6.0 J	7.27 J		
13	MW13-5	Groundwater	P/A	4,4-DDD	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	4,4-DDE	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	4,4-DDT	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	Aldrin	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.00909 U							
13	MW13-5	Groundwater	P/A	alpha-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0109 U							
13	MW13-5	Groundwater	P/A	alpha-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0103 U							
13	MW13-5	Groundwater	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U		0.215 U	0.2 U	0.2 U	0.109 U	0.52 U							
13	MW13-5	Groundwater	P/A	Aroclor 1221	ug/l	0.4 U	0.4 U	0.4 U		0.43 U	0.4 U	0.4 U	0.109 U	0.52 U							
13	MW13-5	Groundwater	P/A	Aroclor 1232	ug/l	0.2 U	0.2 U	0.2 U		0.215 U	0.2 U	0.2 U	0.109 U	0.52 U							
13	MW13-5	Groundwater	P/A	Aroclor 1242	ug/l	0.2 U	0.2 U	0.2 U		0.215 U	0.2 U	0.2 U	0.109 U	0.52 U							
13	MW13-5	Groundwater	P/A	Aroclor 1248	ug/l	0.2 U	0.2 U	0.2 U		0.215 U	0.2 U	0.2 U	0.109 U	0.52 U							
13	MW13-5	Groundwater	P/A	Aroclor 1254	ug/l	0.2 U	0.2 U	0.2 U		0.215 U	0.2 U	0.2 U	0.109 U	0.52 U							
13	MW13-5	Groundwater	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U		0.215 U	0.2 U	0.2 U	0.109 U	0.52 U							
13	MW13-5	Groundwater	P/A	beta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0123 U							
13	MW13-5	Groundwater	P/A	Chlordane	ug/l									0.0103 U							
13	MW13-5	Groundwater	P/A	Chlordane (total)	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U											
13	MW13-5	Groundwater	P/A	DDT (total)	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U											
13	MW13-5	Groundwater	P/A	delta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0104 U							
13	MW13-5	Groundwater	P/A	Dieldrin	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	Endosulfan (total)	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U											
13	MW13-5	Groundwater	P/A	Endosulfan I	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	Endosulfan II	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	Endosulfan sulfate	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	Endrin	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0206 U							
13	MW13-5	Groundwater	P/A	Endrin Aldehyde	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U	0.0214 U							
13	MW13-5	Groundwater	P/A	Endrin ketone	ug/l	0.02 U	0.02 U	0.02 U		0.0215 U	0.02 U	0.02 U	0.033 U								
13	MW13-5	Groundwater	P/A	gamma-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0103 U							
13	MW13-5	Groundwater	P/A	Heptachlor	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0189 U							
13	MW13-5	Groundwater	P/A	Heptachlor epoxide	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.00869 U							
13	MW13-5	Groundwater	P/A	Lindane	ug/l	0.01 U	0.01 U	0.01 U		0.0108 U	0.01 U	0.0099 U	0.033 U	0.0103 U							
13	MW13-5	Groundwater	P/A	Methoxychlor	ug/l	0.1 U	0.1 UJ	0.1 UJ		0.108 U	0.1 U	0.099 U	0.033 U	0.0516 U							
13	MW13-5	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l	0.4 U	0.4 U	0.4 U		0.43 U											
13	MW13-5	Groundwater	P/A	Toxaphene	ug/l	1 U	1 U	1 U		1.08 U	1 U	0.99 U	2.7 U	0.515 U							
13	MW13-5	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U				5 U	29 U		5.1 U						
13	MW13-5	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l							5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l							5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l							5 U	23 U								
13	MW13-5	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 UJ		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		21 U	20 U	5 U	23 U		5.1 U						

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Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-5	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		26 U						
13	MW13-5	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		21 U	20 U	10 U	210 U		100 U						
13	MW13-5	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	29 U		10 U						
13	MW13-5	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 UJ		5 U	5 U	5 U	29 U	0.051 U	0.054 U					0.0092 J	
13	MW13-5	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 UJ		21 U	20 U	5 U	23 U		100 U						
13	MW13-5	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 U		5 U	5 U	5 U	23 U		20 U						
13	MW13-5	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		21 U	20 U	5 U	23 U		51 U						
13	MW13-5	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		21 U	20 U	5 U	210 U		26 U						
13	MW13-5	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										20 U						
13	MW13-5	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		5 U	5 U	5 U			5.1 U						
13	MW13-5	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		21 U	20 U	5 U	23 U		51 U						
13	MW13-5	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 U		21 U	20 U	5 U	160 U		100 U						
13	MW13-5	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1 U	1 U	0.98 U	29 U	0.051 U	0.054 U	0.1 U				0.0046 J	
13	MW13-5	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1 U	2 U	2 U	23 U	0.051 U	0.054 U					0.020 U	
13	MW13-5	Groundwater	SVOA	Aniline	ug/l								23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.1 U	0.5 U		0.1 U	0.1 U	0.098 U	23 U	0.306 U	0.33 U	0.1 U				0.020 U	
13	MW13-5	Groundwater	SVOA	Azobenzene	ug/l								230 U								
13	MW13-5	Groundwater	SVOA	Benzidine	ug/l										200 U						
13	MW13-5	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.1 U	0.1 U	0.098 U	23 U	0.051 U	0.054 U					0.020 U	
13	MW13-5	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.1 U	0.1 U	0.098 U	23 U	0.0643 U	0.068 U	0.1 U				0.048 U	
13	MW13-5	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.1 U	0.2 U	0.2 U	23 U	0.051 U	0.054 U	0.1 U				0.020 U	
13	MW13-5	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.1 U	0.2 U	0.2 U	29 U	0.0918 U	0.054 U	0.1 U				0.0029 J	
13	MW13-5	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.1 U	0.1 U	0.098 U	29 U	0.102 U	0.054 U	0.1 U				0.020 U	
13	MW13-5	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.1 U											
13	MW13-5	Groundwater	SVOA	Benzoic acid	ug/l								57 U		130 U						
13	MW13-5	Groundwater	SVOA	Benzyl alcohol	ug/l								23 U		10 U						
13	MW13-5	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	29 U		5.1 U						
13	MW13-5	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW13-5	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	50	1 U	1 U		1 J	5 U	3 J	23 U		5.1 U	1.17 UJ		0.49 U		2.0 U	
13	MW13-5	Groundwater	SVOA	Butylbenzylphthalate	ug/l	1 U	1 U	1 UJ		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Carbazole	ug/l							5 U									
13	MW13-5	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.052 U	0.1 U	0.098 U	23 U	0.051 U	0.054 U					0.020 U	
13	MW13-5	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.52 U											
13	MW13-5	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.52 U	0.2 U	0.2 U	29 U	0.153 U	0.054 U					0.0036 J	
13	MW13-5	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Di-n-octylphthalate	ug/l	5	1 U	1 UJ		12	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.52 U	0.2 U	0.2 U	23 U	0.051 U	0.054 U	0.1 U				0.020 U	
13	MW13-5	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.1 U	0.1 U	0.098 U	23 U	0.122 U	0.054 U	0.1 U				0.0051 J	
13	MW13-5	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U	5 U					
13	MW13-5	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	34 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		5 U	5 U	5 U	34 U		10 U	10 UJ					
13	MW13-5	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.52 U											
13	MW13-5	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.1 U	0.1 U	0.098 U	23 U	0.204 U	0.054 U					0.0033 J	
13	MW13-5	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	29 U		5.1 U						
13	MW13-5	Groundwater	SVOA	LPAH (total)	ug/l	1 U	1 U	0.5 U		2.1 U											
13	MW13-5	Groundwater	SVOA	m,p-Cresols	ug/l								23 U								

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-5	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2.1 U	1 U	0.98 U	23 U	0.122 J	0.26 U	0.1 U				0.020 U	
13	MW13-5	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	1 U	1 U		5 U											
13	MW13-5	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								23 U								
13	MW13-5	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		5.1 U						
13	MW13-5	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	23 U		10 U						
13	MW13-5	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		21 U	20 U	5 U	160 U		5.1 U	1 U					
13	MW13-5	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.1 U	0.1 U	0.098 U	23 U	0.051 U	0.054 U					0.020 U	
13	MW13-5	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	11 U		5.1 U						
13	MW13-5	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.1 U	0.1 U	0.098 U	23 U	0.051 U	0.054 U	0.1 U				0.020 U	
13	MW13-5	Groundwater	TIN	Aluminum	ug/l	50 UJ	52.1 J	50 U	592	27 U	512	80.6 U	105	197	397						
13	MW13-5	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	1.2 J	2.1 J	2.3 J	1.34	1.64	1.76	1.65	1.7		1.76		
13	MW13-5	Groundwater	TIN	Arsenic	ug/l	2 UJ	2 U	2 U	2 U	0.41 J	1.6 J	2.9 U	5 U	1.15	1.63	0.82 J	1.2	1.2	2.03	1.15	1.45
13	MW13-5	Groundwater	TIN	Barium	ug/l	5 U	5 U	5 U	4.1	3.3 J	4.1 J	3.1 J	3.97	3.35	5.76	3.27	5.6	5.5 J		4.67	2.66
13	MW13-5	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.26 U	0.33 U	0.28 U	0.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.043 U	0.020 U		
13	MW13-5	Groundwater	TIN	Cadmium	ug/l	5.5	1 U	1 U	0.057 UJ	0.047 U	0.11 J	0.3 U	2 U	0.2 U	0.2 U	1 UJ	0.1 U	0.094 U	0.049 J		
13	MW13-5	Groundwater	TIN	Calcium	ug/l	43800	36000	26300	34500	48700	59400	45100	69000	47400							
13	MW13-5	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	7.3 J	6.4 U	1.3 J	0.4 J	6 U	0.397	0.653	1 UJ	1.25	1.0 U	0.76 J		
13	MW13-5	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	4 U	2.9 U	0.42 J	0.5 U	0.8 U	0.16	0.291						
13	MW13-5	Groundwater	TIN	Copper	ug/l	6.9 J	9.5 J	11.5	4 UJ	6.5 J	7.3	5.4 J	6 U	27.8	5.23	4.54	6.32	6.6	3.84		
13	MW13-5	Groundwater	TIN	Iron	ug/l	20 UJ	20 U	20 U	1180	15.1	267	13.1 J	1000 U	69.3							
13	MW13-5	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	2 U	0.019 U	0.26 J	1.6 U	2 U	0.376	0.619	1 U	1 U	0.094 J	0.110		
13	MW13-5	Groundwater	TIN	Magnesium	ug/l	23200	16900	14200	19700	25500	29400	23800	30300	24300							
13	MW13-5	Groundwater	TIN	Manganese	ug/l	2 U	2 U	2 U	256	1.7 J	11.3	0.3 J	4 U	2.59	5.61						
13	MW13-5	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.1 U	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW13-5	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	4 U	3.6 U	1.1 U	0.7 U	2 U	2.05	2.93	1.88 J	1.3 J	2.0	1.38		
13	MW13-5	Groundwater	TIN	Potassium	ug/l	9510	7470	14900 J	8960	9170	8350	11400 J	8170	7070							
13	MW13-5	Groundwater	TIN	Selenium	ug/l	3 U	3 U	2.4 J	0.48 U	2 J	3	1.1 U	5 U	1.21	2.56	2.28	2 U	2.4 J	3.2 J		
13	MW13-5	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U	1 U	0.085 U	0.030 U		
13	MW13-5	Groundwater	TIN	Sodium	ug/l	159000	101000	239000	118000	103000	76600	84000 J		64500							
13	MW13-5	Groundwater	TIN	Thallium	ug/l	3 UJ	3 UJ	2 U	10 U	0.008 U	0.28 J	3.5 U	1 U	0.25 U	0.25 U	1 U	1 U	0.044 U	0.020 U		
13	MW13-5	Groundwater	TIN	Vanadium	ug/l	5 U	5 U	5 U	3 UJ	3.6	4.1 J	3.2 J	20 U	3.53	4.82						
13	MW13-5	Groundwater	TIN	Zinc	ug/l	5 U	6.6 J	6.8 J	32.3 U	9.6	6.9	5.1 U	25 U	12.2	5.03	5.22 J	6.07 J	5.5 J	4.32 J		
13	MW13-5	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW13-5	Groundwater	VOA	1,1-Dichloroethane	ug/l	1 UJ	1 U	1 U	1 U	0.29 J	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,1-Dichloropropene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					1 U	1 U		2 U	2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-5	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		2.5 U	10 U	10 U	5 UJ		1.0 U		2.0 U	
13	MW13-5	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW13-5	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	1,3-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U											
13	MW13-5	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	2,2-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	2-Butanone	ug/l	5 U	5 U	5 U		5 U	5 U	5 U	50 U	50 U	50 U	10 UJ		5.0 U			
13	MW13-5	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10 U	10 U	10 U						
13	MW13-5	Groundwater	VOA	2-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	2-Hexanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	10 UJ		5.0 U			
13	MW13-5	Groundwater	VOA	4-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	4-Isopropyltoluene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW13-5	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	5 UJ		5.0 U			
13	MW13-5	Groundwater	VOA	Acetone	ug/l	5 U	5 U	5 U		5 U	5 U	5 U		50 U	4.5 J	25 UJ		5.0 U		20 UJ	
13	MW13-5	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW13-5	Groundwater	VOA	Benzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U	0.5 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Bromobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Bromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Bromodichloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Bromoform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Bromomethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	5 U	5 U	5 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	BTEX (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U											
13	MW13-5	Groundwater	VOA	Carbon disulfide	ug/l	1 U	1 U	1 U	2.1	1 U	1 U	1 U	10 U	2 U	2 U	10 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Carbon tetrachloride	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Chlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Chloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Chloroform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Chloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 UJ		1.0 UJ		0.50 U	
13	MW13-5	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Dibromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Dibromomethane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1 U	1 U	5 U	5 U	5 UJ		1.0 UJ			
13	MW13-5	Groundwater	VOA	Ethylbenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Hexachlorobutadiene	ug/l								2 U	2 U	2 U	4 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW13-5	Groundwater	VOA	Isopropylbenzene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	m,p-Xylene	ug/l	0.2 U	0.2 U	0.2 U				0.6 J		2 U	2 U	2 UJ		2.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Methylene chloride	ug/l	2 U	1 U	1 U	2 U	2 U	2 U	1 U	5 U	5 U	5 UJ	5 UJ		1.0 U		2.0 U	
13	MW13-5	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW13-5	Groundwater	VOA	Naphthalene	ug/l								2 U	2 U	2 U	2 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	n-Butylbenzene	ug/l								1 U	2 U	2 U	5 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	n-Propylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	o-Xylene	ug/l	0.2 U	0.2 U	0.2 U		0.2 U		1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	sec-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Styrene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	tert-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Tetrachloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Toluene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.3 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		1.2 U	
13	MW13-5	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW13-5	Groundwater	VOA	Trichloroethene	ug/l	1 U	1 U	1 U	1 U	0.15 J	0.6 J	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Trichlorofluoromethane	ug/l							1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW13-5	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW13-5	Groundwater	VOA	Vinyl chloride	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW13-5	Groundwater	VOA	Xylenes	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		2 U							1.0 U	
13	MW13-5	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U										1.0 U	
13	MW-603	Groundwater	DIN	Aluminum	ug/l	50 U	50 U	50 U		27 U	50.5 J	80.6 U	2.5 U	1.82	5 U						
13	MW-603	Groundwater	DIN	Antimony	ug/l	8.9 J	5 U	5 U		0.35 J	0.77 J	1.6 U	0.557	0.87	1.73	0.9 UJ	0.815 J	1.3 J	0.93		
13	MW-603	Groundwater	DIN	Arsenic	ug/l	2 U	2 U	2 U		2.5	1.4 J	2.9 U	2 U	1.74	35.9	1.67 UJ	0.63 J	2.2	3.29	1.08	2.03
13	MW-603	Groundwater	DIN	Barium	ug/l	5 U	12 J	5 U		1.2 J	0.7 J	5.5 J	1 U	0.631	11.2	1.5	1.04	3.8		0.57	1.15
13	MW-603	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	0.28 U	0.6 U	0.5 U	0.15 U	0.75 U	1 U	1 U	0.043 U	0.020 U		
13	MW-603	Groundwater	DIN	Cadmium	ug/l	3.6 J	1 U	1 U		0.047 U	0.053 U	0.3 U	2 U	1.48	1 U	1 U	0.1 U	0.094 UJ	0.045 J		
13	MW-603	Groundwater	DIN	Calcium	ug/l	41400	110000	43100		24100	27600	111000	20400	19800	220000						
13	MW-603	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 U	4.4 J	0.6 J	6.77	4.71	6.92	1.04 UJ	1 U	1.0 U	1.07		
13	MW-603	Groundwater	DIN	Cobalt	ug/l	5 U	5 U	5 U		2.9 U	0.56 J	0.5 U	0.4 U	0.5 U	3.02						
13	MW-603	Groundwater	DIN	Copper	ug/l	3.1 J	2.3 J	3.1 J		3 J	4.2 J	2.6 J	3 U	2.58	13	2.85	2.1	7.2 J	2.82		
13	MW-603	Groundwater	DIN	Iron	ug/l	20 U	20 U	20 U		95.9	31.9 J	12.8 U	1000 U	50 U	1800						
13	MW-603	Groundwater	DIN	Lead	ug/l	2 U	2 UJ	1 U		0.019 U	0.36 J	1.6 U	0.3 U	0.206	0.52	1 U	1 U	0.28 J	0.030 U		
13	MW-603	Groundwater	DIN	Magnesium	ug/l	78600	220000	91500		41500	26800	213000	30500	29000	640000						
13	MW-603	Groundwater	DIN	Manganese	ug/l	143	319	31		13.1	153	0.2 U	10 U	9.91	24						
13	MW-603	Groundwater	DIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ		0.1 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.0918 J	0.20 U		

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-603	Groundwater	DIN	Nickel	ug/l	5 U	5 U	5 U		3.6 U	4.4 J	0.7 U	1 U	0.748	10.4	0.66 UJ	0.514 J	0.89 J	0.93		
13	MW-603	Groundwater	DIN	Potassium	ug/l	28500	70500	67500 J		21800	14500	132000 J	19600	18200	230000						
13	MW-603	Groundwater	DIN	Selenium	ug/l	3 U	3 UJ	2.1 J		8.3	5.8	1.1 U	3.22	2.52	156	3.32	2 U	5.7 J	9.2 J		
13	MW-603	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U	0.7 U	1 U	0.1 U	0.5 U	1 U	1 U	0.085 U	0.057		
13	MW-603	Groundwater	DIN	Sodium	ug/l	575000	1450000	824000		409000	121000	1240000 J		223000	5800000						
13	MW-603	Groundwater	DIN	Thallium	ug/l	3 UJ	3 UJ	2 UJ		0.008 U	0.66 J	3.5 U	0.5 U	0.05 U	0.433	1 U	1 U	0.044 U	0.020 U		
13	MW-603	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		2 U	1 J	0.8 J	10 U	5 U	149						
13	MW-603	Groundwater	DIN	Zinc	ug/l	5 U	5 U	5 U		8.5 J	5.7	6.6 J	19.3	9.78	9.6	5 U	5 U	5.5 J	2.34 J		
13	MW-603	Groundwater	P/A	4,4-DDD	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	4,4-DDE	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	4,4-DDT	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	Aldrin	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.0089 U							
13	MW-603	Groundwater	P/A	alpha-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.011 U							
13	MW-603	Groundwater	P/A	alpha-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.01 U							
13	MW-603	Groundwater	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U		0.225 U	0.2 U	0.19 U	0.123 U	0.51 U							
13	MW-603	Groundwater	P/A	Aroclor 1221	ug/l	0.4 U	0.4 U	0.4 U		0.449 U	0.4 U	0.39 U	0.123 U	0.51 U							
13	MW-603	Groundwater	P/A	Aroclor 1232	ug/l	0.2 U	0.2 U	0.2 U		0.225 U	0.2 U	0.19 U	0.123 U	0.51 U							
13	MW-603	Groundwater	P/A	Aroclor 1242	ug/l	0.2 U	0.2 U	0.2 U		0.225 U	0.2 U	0.19 U	0.123 U	0.51 U							
13	MW-603	Groundwater	P/A	Aroclor 1248	ug/l	0.2 U	0.2 U	0.2 U		0.225 U	0.2 U	0.19 U	0.123 U	0.51 U							
13	MW-603	Groundwater	P/A	Aroclor 1254	ug/l	0.2 U	0.2 U	0.2 U		0.225 U	0.2 U	0.19 U	0.123 U	0.51 U							
13	MW-603	Groundwater	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U		0.225 U	0.2 U	0.19 U	0.123 U	0.51 U							
13	MW-603	Groundwater	P/A	beta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.012 U							
13	MW-603	Groundwater	P/A	Chlordane	ug/l									0.01 U							
13	MW-603	Groundwater	P/A	Chlordane (total)	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U											
13	MW-603	Groundwater	P/A	DDT (total)	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U											
13	MW-603	Groundwater	P/A	delta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.01 U							
13	MW-603	Groundwater	P/A	Dieldrin	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	Endosulfan (total)	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U											
13	MW-603	Groundwater	P/A	Endosulfan I	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	Endosulfan II	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	Endosulfan sulfate	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	Endrin	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.02 U							
13	MW-603	Groundwater	P/A	Endrin Aldehyde	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U	0.021 U							
13	MW-603	Groundwater	P/A	Endrin ketone	ug/l	0.02 U	0.02 U	0.02 U		0.0225 U	0.02 U	0.019 U	0.037 U								
13	MW-603	Groundwater	P/A	gamma-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.01 U							
13	MW-603	Groundwater	P/A	Heptachlor	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.018 U							
13	MW-603	Groundwater	P/A	Heptachlor epoxide	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.0085 U							
13	MW-603	Groundwater	P/A	Lindane	ug/l	0.01 U	0.01 U	0.01 U		0.0112 U	0.01 U	0.0097 U	0.037 U	0.01 U							
13	MW-603	Groundwater	P/A	Methoxychlor	ug/l	0.1 U	0.1 UJ	0.1 UJ		0.112 U	0.1 U	0.097 U	0.037 U	0.051 U							
13	MW-603	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l	0.4 U	0.4 U	0.4 U		0.449 U											
13	MW-603	Groundwater	P/A	Toxaphene	ug/l	1 U	1 U	1 U		1.12 U	1 U	0.97 U	3.1 U	0.51 U							
13	MW-603	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U				5 U	28 U		5.1 U						
13	MW-603	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l							5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l							5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l							5 U	22 U								
13	MW-603	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		26 U						
13	MW-603	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		22 U	20 U	10 U	200 U		100 U						
13	MW-603	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	28 U		10 U						
13	MW-603	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	28 U	0.052 U	0.054 U					0.020 U	
13	MW-603	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 UJ		22 U	20 U	5 U	22 U		100 U						
13	MW-603	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 U		6 U	5 U	5 U	22 U		20 U						
13	MW-603	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	22 U		51 U						
13	MW-603	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	200 U		26 U						

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Groundwater
Metals Landfill
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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-603	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										20 U						
13	MW-603	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		6 U	5 U	5 U			5.1 U						
13	MW-603	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	22 U		51 U						
13	MW-603	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 UJ		22 U	20 U	5 U	160 U		100 U						
13	MW-603	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1.1 U	1 U	0.97 U	28 U	0.052 U	0.054 U	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1.1 U	2 U	1.9 U	22 U	0.052 U	0.054 U					0.020 U	
13	MW-603	Groundwater	SVOA	Aniline	ug/l								22 U		5.1 U						
13	MW-603	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.1 U	0.5 U		0.11 U	0.1 U	0.097 U	22 U	0.31 U	0.33 U	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	Azobenzene	ug/l								220 U								
13	MW-603	Groundwater	SVOA	Benzidine	ug/l										200 U						
13	MW-603	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.11 U	0.1 U	0.097 U	22 U	0.052 U	0.054 U					0.020 U	
13	MW-603	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.11 U	0.1 U	0.097 U	22 U	0.066 U	0.068 U	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.11 U	0.2 U	0.19 U	22 U	0.052 U	0.054 U	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.11 U	0.2 U	0.19 U	28 U	0.094 U	0.054 U	0.1 U				0.0019 J	
13	MW-603	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.11 U	0.1 U	0.097 U	28 U	0.1 U	0.054 U	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.11 U											
13	MW-603	Groundwater	SVOA	Benzoic acid	ug/l								56 U		130 U						
13	MW-603	Groundwater	SVOA	Benzyl alcohol	ug/l								22 U		10 U						
13	MW-603	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	28 U		5.1 U						
13	MW-603	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW-603	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	620	1 U	0.9 J		6 U	2.53 J	28	22 U		5.1 U	2.45 UJ		0.56		0.31 J	
13	MW-603	Groundwater	SVOA	Butylbenzylphthalate	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	Carbazole	ug/l							5 U									
13	MW-603	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.055 U	0.1 U	0.097 U	22 U	0.052 U	0.054 U					0.020 U	
13	MW-603	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.55 U											
13	MW-603	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.55 U	0.2 U	0.19 U	28 U	0.16 U	0.054 U					0.020 U	
13	MW-603	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	Di-n-octylphthalate	ug/l	1 U	1 U	4 J		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.55 U	0.2 U	0.19 U	22 U	0.052 U	0.054 U	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.11 U	0.1 U	0.097 U	22 U	0.13 U	0.054 U	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U	5 U					
13	MW-603	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	33 U		5.1 U						
13	MW-603	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		6 U	5 U	5 U	33 U		10 U	10 UJ					
13	MW-603	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.55 U											
13	MW-603	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.11 U	0.1 U	0.097 U	22 U	0.21 U	0.054 U					0.020 U	
13	MW-603	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	28 U		5.1 U						
13	MW-603	Groundwater	SVOA	LPAH (total)	ug/l	1 U	1 U	0.5 U		2.2 U											
13	MW-603	Groundwater	SVOA	m,p-Cresols	ug/l								22 U								
13	MW-603	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2.2 U	1 U	0.97 U	22 U	0.25 U	0.37	0.1 U				0.020 U	
13	MW-603	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	1 U	1 U		6 U											
13	MW-603	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								22 U								
13	MW-603	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		5.1 U						
13	MW-603	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	22 U		10 U						
13	MW-603	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		22 U	20 U	5 U	160 U		5.1 U	1 U					
13	MW-603	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.11 U	0.1 U	0.097 U	22 U	0.052 U	0.054 U					0.020 U	
13	MW-603	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	11 U		5.1 U						
13	MW-603	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.11 U	0.1 U	0.097 U	22 U	0.052 U	0.054 U	0.1 U				0.020 U	
13	MW-603	Groundwater	TIN	Aluminum	ug/l	121 UJ	50 U	50 U	148 U	27 U	298	157 J	20.2	9.41	53.6						
13	MW-603	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	0.13 J	0.49 J	1.6 U	1 U	0.834	5 U	0.92 J	0.792 J		0.89		
13	MW-603	Groundwater	TIN	Arsenic	ug/l	2 UJ	2 U	2 U	36.3	2	1.8 J	2.9 U	5 U	2.02	38.8	2.82	0.92 J	1.9	5.74	1.25	2.18
13	MW-603	Groundwater	TIN	Barium	ug/l	5 U	10.5 J	5 U	19.6	1.2 J	16.4 J	5.5 J	3 U	0.753	10.8	1.46	1.39	2.3 J		0.67	1.62
13	MW-603	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.26 U	0.33 U	0.28 U	0.6 U	1 U	0.5 U	5 U	1 U	1 U	0.043 U	0.020 U		

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-603	Groundwater	TIN	Cadmium	ug/l	1 U	1 U	1 U	0.057 UJ	0.047 U	0.079 J	0.3 U	2 U	0.2 U	2 U	1 U	0.1 U	0.094 U	0.052		
13	MW-603	Groundwater	TIN	Calcium	ug/l	42000	109000	43700	269000	24100	19900	112000	21000	18100							
13	MW-603	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	7.8 J	6.4 U	0.6 U	0.4 U	6 U	0.333	4.41	1 U	1 U	1.0 U	0.99 J		
13	MW-603	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	4 U	2.9 U	0.043 U	0.5 U	0.8 U	0.1 U	1 U						
13	MW-603	Groundwater	TIN	Copper	ug/l	2 U	2.4 J	3.2 J	4 UJ	3 J	3.1 J	2.8 J	6 U	2.73	5.67	4.46	3.1	7.0	3.02		
13	MW-603	Groundwater	TIN	Iron	ug/l	187 UJ	26.3 J	20 U	250	95.9	266	47 J	1000 U	148							
13	MW-603	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	2 U	0.019 U	0.28 J	1.6 U	2 U	0.476	3.49	1 U	1 U	0.26 J	0.110		
13	MW-603	Groundwater	TIN	Magnesium	ug/l	79900	219000	91500	728000	41500	14600	215000	31600	26900							
13	MW-603	Groundwater	TIN	Manganese	ug/l	157	323	30.8	37.4	13.1	163	3.6 J	14.2	11.7	46						
13	MW-603	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.1 U	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW-603	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	4 U	3.6 U	2.1 J	0.7 U	2 U	0.828	10.2	0.66 J	0.595 J	0.81 J	0.73		
13	MW-603	Groundwater	TIN	Potassium	ug/l	28100	68800	66800 J	214000	21800	5580	5760 J	19300	16900							
13	MW-603	Groundwater	TIN	Selenium	ug/l	3 U	3 UJ	2.1 J	104	7.3	5.4	1.1 U	6.4	3.3	164	6.75	2 U	5.4	10.0 J		
13	MW-603	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U	0.7 U	2 U	0.35 U	3.5 U	1 U	1 U	0.085 U	0.030 U		
13	MW-603	Groundwater	TIN	Sodium	ug/l	576000	28600	823000	5500000	409000	56100	1240000 J		224000							
13	MW-603	Groundwater	TIN	Thallium	ug/l	3 UJ	3 UJ	2 UJ	10 U	0.008 U	4.9	3.5 U	1 U	0.25 U	2.5 U	1 U	1 U	0.044 U	0.020 U		
13	MW-603	Groundwater	TIN	Vanadium	ug/l	5 U	5 U	5 U	5.3 J	2 U	0.9 J	0.7 J	20 U	2.29	52.7						
13	MW-603	Groundwater	TIN	Zinc	ug/l	5 U	5 U	5 J	31.3 U	8.5	3.3 J	16.2 J	25 U	8.76	12.6	5 U	5 U	5.0 U	2.31 J		
13	MW-603	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW-603	Groundwater	VOA	1,1-Dichloroethane	ug/l	1 UJ	1 U	0.24 J	1 U	0.35 J	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	1,1-Dichloropropene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					0.15 J	1 U		2 U	2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW-603	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1 U	2 U	2	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		2.5 U	10 U	10 U	5 UJ		1.0 U		2.0 U	
13	MW-603	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW-603	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.22 J	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.13 J	
13	MW-603	Groundwater	VOA	1,3-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U											
13	MW-603	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	2,2-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	2-Butanone	ug/l	5 U	5 U	5 U		5 U	5 U	5 U	50 U	50 U	50 U	10 UJ		5.0 U			
13	MW-603	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10 U	10 U	10 U						
13	MW-603	Groundwater	VOA	2-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	2-Hexanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	10 UJ		5.0 U			
13	MW-603	Groundwater	VOA	4-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	4-Isopropyltoluene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW-603	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	5 UJ		5.0 U			
13	MW-603	Groundwater	VOA	Acetone	ug/l	5 U	5 U	5 U		5 U	5 U	5 U		50 U	50 U	25 UJ		5.0 U		20 UJ	
13	MW-603	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW-603	Groundwater	VOA	Benzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U	0.5 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Bromobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Bromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Bromodichloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Bromoform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Bromomethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	5 U	5 U	5 UJ		1.0 U			
13	MW-603	Groundwater	VOA	BTEX (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U											
13	MW-603	Groundwater	VOA	Carbon disulfide	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	2 U	2 U	10 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Carbon tetrachloride	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Chlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Chloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Chloroform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-603	Groundwater	VOA	Chloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	0.35 J	0.26 J	1 U	1 U	0.19 J	1 U	1 U	1 U	2 U	2 U	0.21 J		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Dibromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Dibromomethane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1 U	1 U	5 U	5 U	0.57 J		1.0 U			
13	MW-603	Groundwater	VOA	Ethylbenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Hexachlorobutadiene	ug/l								2 U	2 U	2 U	4 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW-603	Groundwater	VOA	Isopropylbenzene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW-603	Groundwater	VOA	m,p-Xylene	ug/l	0.2 U	0.2 U	0.2 U				1 U		2 U	1.8 J	2 UJ		2.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Methylene chloride	ug/l	2 U	1 U	1 U	2 U	2 U	2 U	1 U	5 U	5 U	1 U	5 UJ		1.0 U		2.0 U	
13	MW-603	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW-603	Groundwater	VOA	Naphthalene	ug/l								2 U	2 U	68	2 UJ		1.0 U			
13	MW-603	Groundwater	VOA	n-Butylbenzene	ug/l								1 U	2 U	2 U	5 UJ		1.0 U			
13	MW-603	Groundwater	VOA	n-Propylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	o-Xylene	ug/l	0.2 U	0.2 U	0.2 U		0.2 U		1 U		2 U	0.64 J	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	sec-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Styrene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	tert-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Tetrachloroethene	ug/l	0.49 J	0.47 J	0.54 J	1 U	0.75 J	0.62 J	1 U	1 U	2 U	2 U	0.35 J		1.0 U		0.33 J	
13	MW-603	Groundwater	VOA	Toluene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.3 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		1.0 U	
13	MW-603	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW-603	Groundwater	VOA	Trichloroethene	ug/l	0.8 J	0.72 J	0.65 J	1 U	0.84 J	1.2	1 U	1 U	0.56 J	2 U	0.43 J		1.0 U		0.53	
13	MW-603	Groundwater	VOA	Trichlorofluoromethane	ug/l							1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-603	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW-603	Groundwater	VOA	Vinyl chloride	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW-603	Groundwater	VOA	Xylenes	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		2 U							1.0 U	
13	MW-603	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U										1.0 U	
13	MW-604	Groundwater	DIN	Aluminum	ug/l	50 U	143	50 U		34.8 J	43 U	80.6 U	10.1	16.9	8.69						
13	MW-604	Groundwater	DIN	Antimony	ug/l	5.3 J	5 U	5 U		0.19 J	0.61 J	1.6 U	0.578	0.771	1	0.54 UJ	0.745 J	0.82 UJ	1.07		
13	MW-604	Groundwater	DIN	Arsenic	ug/l	2 U	2 U	2 U		0.19 U	2	2.9 U	2 U	1.03	0.694	1.5 UJ	1.76	0.61 J	1.76	0.50 U	1.47
13	MW-604	Groundwater	DIN	Barium	ug/l	6.3 J	5 U	5.4 J		3.5 J	1.3 J	1.7 J	1.5	1.34	0.9	2.83	1.68	3.8 J		1.30	1.85
13	MW-604	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	0.28 U	0.6 U	0.5 U	0.15 U	0.15 U	1 U	1 U	0.043 U	0.020 U		
13	MW-604	Groundwater	DIN	Cadmium	ug/l	1 U	1 U	1 U		0.047 U	0.053 U	0.3 U	2 U	0.2 U	0.2 U	1 U	0.1 U	0.27 J	0.021 J		
13	MW-604	Groundwater	DIN	Calcium	ug/l	24000	21600	34800		13700	13800	11900	6910	4530	5700						
13	MW-604	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 U	1.4 J	0.4 U	4.96	2.78	1.78	0.84 UJ	1 U	1.0 U	0.65 J		
13	MW-604	Groundwater	DIN	Cobalt	ug/l	5 U	5 U	5 U		2.9 U	0.043 U	0.5 U	0.4 U	0.5 U	3.27						
13	MW-604	Groundwater	DIN	Copper	ug/l	2 U	4.2 J	2 U		2.1 U	1.5 J	1.6 J	3 U	1.9	2.71 J	2.12	2.54	3.7 J	2.01		
13	MW-604	Groundwater	DIN	Iron	ug/l	108 U	101	64.9 J		572	17.6 J	27.3 J	1000 U	172	1100						
13	MW-604	Groundwater	DIN	Lead	ug/l	2 U	2 U	1 U		0.019 U	0.036 U	1.6 U	0.3 U	0.139	0.294 J	1 U	1 U	0.075 U	0.030 U		
13	MW-604	Groundwater	DIN	Magnesium	ug/l	17800	12600	30500		15800	9130	11000	5830	5280	6800						
13	MW-604	Groundwater	DIN	Manganese	ug/l	56.9	29.7	38.3		14.9	3.5 J	5.1 J	10 U	1.12	6.75						
13	MW-604	Groundwater	DIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ		0.1 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW-604	Groundwater	DIN	Nickel	ug/l	5 U	9.4 J	5 U		3.6 U	1.1 U	0.7 U	1 U	0.252	0.545	2 U	0.413 J	0.65 J	0.43 J		
13	MW-604	Groundwater	DIN	Potassium	ug/l	8050	5970	18400 J		8030	8190	12200 J	7630	7280	7900						
13	MW-604	Groundwater	DIN	Selenium	ug/l	3 U	3 U	2 U		2.1 J	3.5	1.1 U	2.5 U	1.21	2.13	1.75	2 U	2.0 UJ	6.0 J		
13	MW-604	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U	7 U	1 U	0.1 U	0.1 U	1 U	1 U	0.085 U	0.030 U		
13	MW-604	Groundwater	DIN	Sodium	ug/l	109000	43200	316000		135000	91600	116000 J		149000	150000						
13	MW-604	Groundwater	DIN	Thallium	ug/l	3 UJ	3 U	2 U		0.008 U	0.012 U	3.5 U	0.5 U	0.05 U	0.0912 J	1 U	1 U	0.044 U	0.020 U		
13	MW-604	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		2 U	0.9 J	0.5 J	10 U	5 U	13.8						
13	MW-604	Groundwater	DIN	Zinc	ug/l	110	30.4	5 U		4.8 J	2.8 J	5.1 U	21.7	5.51	2.77	5 U	3.76 J	5.0 UJ	2.30 J		
13	MW-604	Groundwater	P/A	4,4-DDD	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	4,4-DDE	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	4,4-DDT	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	Aldrin	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.0093 U							
13	MW-604	Groundwater	P/A	alpha-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.011 U							
13	MW-604	Groundwater	P/A	alpha-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.011 U							
13	MW-604	Groundwater	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U		0.23 U	0.2 U	0.2 U	0.123 U	0.53 U							

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-604	Groundwater	P/A	Aroclor 1221	ug/l	0.4 U	0.4 U	0.4 U		0.46 U	0.4 U	0.39 U	0.123 U	0.53 U							
13	MW-604	Groundwater	P/A	Aroclor 1232	ug/l	0.2 U	0.2 U	0.2 U		0.23 U	0.2 U	0.2 U	0.123 U	0.53 U							
13	MW-604	Groundwater	P/A	Aroclor 1242	ug/l	0.2 U	0.2 U	0.2 U		0.23 U	0.2 U	0.2 U	0.123 U	0.53 U							
13	MW-604	Groundwater	P/A	Aroclor 1248	ug/l	0.2 U	0.2 U	0.2 U		0.23 U	0.2 U	0.2 U	0.123 U	0.53 U							
13	MW-604	Groundwater	P/A	Aroclor 1254	ug/l	0.2 U	0.2 U	0.2 U		0.23 U	0.2 U	0.2 U	0.123 U	0.53 U							
13	MW-604	Groundwater	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U		0.23 U	0.2 U	0.2 U	0.123 U	0.53 U							
13	MW-604	Groundwater	P/A	beta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.013 U							
13	MW-604	Groundwater	P/A	Chlordane	ug/l									0.011 U							
13	MW-604	Groundwater	P/A	Chlordane (total)	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U											
13	MW-604	Groundwater	P/A	DDT (total)	ug/l	0.02 U	0.02 U	0.02 U		0.023 U											
13	MW-604	Groundwater	P/A	delta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.011 U							
13	MW-604	Groundwater	P/A	Dieldrin	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	Endosulfan (total)	ug/l	0.02 U	0.02 U	0.02 U		0.023 U											
13	MW-604	Groundwater	P/A	Endosulfan I	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	Endosulfan II	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	Endosulfan sulfate	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	Endrin	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.021 U							
13	MW-604	Groundwater	P/A	Endrin Aldehyde	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U	0.022 U							
13	MW-604	Groundwater	P/A	Endrin ketone	ug/l	0.02 U	0.02 U	0.02 U		0.023 U	0.02 U	0.02 U	0.037 U								
13	MW-604	Groundwater	P/A	gamma-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.011 U							
13	MW-604	Groundwater	P/A	Heptachlor	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.019 U							
13	MW-604	Groundwater	P/A	Heptachlor epoxide	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.0089 U							
13	MW-604	Groundwater	P/A	Lindane	ug/l	0.01 U	0.01 U	0.01 U		0.0115 U	0.01 U	0.0098 U	0.037 U	0.011 U							
13	MW-604	Groundwater	P/A	Methoxychlor	ug/l	0.1 U	0.1 UJ	0.1 UJ		0.115 U	0.1 U	0.098 U	0.037 U	0.053 U							
13	MW-604	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l	0.4 U	0.4 U	0.4 U		0.46 U											
13	MW-604	Groundwater	P/A	Toxaphene	ug/l	1 U	1 U	1 U		1.15 U	1 U	0.98 U	3.1 U	0.53 U							
13	MW-604	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U				5 U	29 U		5.1 U						
13	MW-604	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l							5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l							5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l							5 U	23 U								
13	MW-604	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		23 U	20 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		26 U						
13	MW-604	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		23 U	20 U	10 U	210 U		100 U						
13	MW-604	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	29 U		10 U						
13	MW-604	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	29 U	0.051 U	0.053 U					0.020 U	
13	MW-604	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 UJ		23 U	20 U	5 U	23 U		100 U						
13	MW-604	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 U		6 U	5 U	5 U	23 U		20 U						
13	MW-604	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		23 U	20 U	5 U	23 U		51 U						
13	MW-604	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		23 U	20 U	5 U	210 U		26 U						
13	MW-604	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										20 U						
13	MW-604	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		6 U	5 U	5 U			5.1 U						
13	MW-604	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		23 U	20 U	5 U	23 U		51 U						
13	MW-604	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 UJ		23 U	20 U	5 U	160 U		100 U						
13	MW-604	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1.1 U	1 U	0.97 U	29 U	0.051 U	0.053 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1.1 U	2 U	1.9 U	23 U	0.051 U	0.053 U					0.020 U	
13	MW-604	Groundwater	SVOA	Aniline	ug/l								23 U		5.1 U						
13	MW-604	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.1 U	0.5 U		0.11 U	0.1 U	0.097 U	23 U	0.31 U	0.32 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Azobenzene	ug/l								230 U								
13	MW-604	Groundwater	SVOA	Benzidine	ug/l										200 U						
13	MW-604	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.11 U	0.1 U	0.097 U	23 U	0.051 U	0.053 U					0.020 U	

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						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-604	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.11 U	0.1 U	0.097 U	23 U	0.064 U	0.067 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.11 U	0.2 U	0.19 U	23 U	0.051 U	0.053 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.11 U	0.2 U	0.19 U	29 U	0.092 U	0.053 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.11 U	0.1 U	0.097 U	29 U	0.1 U	0.053 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.11 U											
13	MW-604	Groundwater	SVOA	Benzoic acid	ug/l								58 U		130 U						
13	MW-604	Groundwater	SVOA	Benzyl alcohol	ug/l								23 U		10 U						
13	MW-604	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	29 U		5.1 U						
13	MW-604	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW-604	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	9	1 U	1 UJ		6 U	0.52 J	4 J	23 U		5.1 U	0.5 U		0.49 U		0.19 J	
13	MW-604	Groundwater	SVOA	Butylbenzylphthalate	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	Carbazole	ug/l							5 U									
13	MW-604	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.054 U	0.1 U	0.097 U	23 U	0.051 U	0.053 U					0.020 U	
13	MW-604	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.54 U											
13	MW-604	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.54 U	0.2 U	0.19 U	29 U	0.15 U	0.053 U					0.020 U	
13	MW-604	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	Di-n-octylphthalate	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.54 U	0.2 U	0.19 U	23 U	0.051 U	0.053 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.11 U	0.1 U	0.097 U	23 U	0.12 U	0.053 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U	5 U					
13	MW-604	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	35 U		5.1 U						
13	MW-604	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		6 U	5 U	5 U	35 U		10 U	10 UJ					
13	MW-604	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.54 U											
13	MW-604	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.11 U	0.1 U	0.097 U	23 U	0.2 U	0.053 U					0.020 U	
13	MW-604	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	29 U		5.1 U						
13	MW-604	Groundwater	SVOA	LPAH (total)	ug/l	1 U	1 U	0.5 U		2.2 U											
13	MW-604	Groundwater	SVOA	m,p-Cresols	ug/l								23 U								
13	MW-604	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2.2 U	1 U	0.97 U	23 U	0.24 U	0.26 U	0.1 U				0.020 U	
13	MW-604	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	1 U	1 U		6 U											
13	MW-604	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								23 U								
13	MW-604	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		5.1 U						
13	MW-604	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		6 U	5 U	5 U	23 U		10 U						
13	MW-604	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		23 U	20 U	5 U	160 U		5.1 U	1 U					
13	MW-604	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.11 U	0.1 U	0.097 U	23 U	0.051 U	0.053 U					0.020 U	
13	MW-604	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 UJ		6 U	5 U	5 U	12 U		5.1 U						
13	MW-604	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.11 U	0.1 U	0.097 U	23 U	0.051 U	0.053 U	0.1 U				0.020 U	
13	MW-604	Groundwater	TIN	Aluminum	ug/l	237 UJ	147	50 U	210	34.8 J	134	152 J	37.2	45.7	56.2						
13	MW-604	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	0.27 J	0.55 J	1.6 U	1 U	0.665	0.884	0.4 J	0.585 J	0.67 UJ	1.09		
13	MW-604	Groundwater	TIN	Arsenic	ug/l	2 UJ	2 J	2 U	2 U	0.59 J	2.3	2.9 U	5 U	1.58	1.3	3.11	3.62	0.71 J	2.75	2.91	6.48
13	MW-604	Groundwater	TIN	Barium	ug/l	7.2 J	5 U	6 J	3	3.5 J	1.4 J	2 J	3 U	1.92	1.22	4.21	3.71	2.2 J		3.13	5.1
13	MW-604	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.26 U	0.33 U	0.28 U	0.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.043 U	0.020 U		
13	MW-604	Groundwater	TIN	Cadmium	ug/l	1 U	1 U	1 U	0.057 UJ	0.047 U	0.053 U	0.3 U	2 U	0.2 U	0.2 U	1 UJ	0.1 U	0.094 U	0.024 J		
13	MW-604	Groundwater	TIN	Calcium	ug/l	24200	21500	35500	18900	13700	13800	11700	7030	4370							
13	MW-604	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	4 UJ	6.4 U	1.5 J	0.6 J	6 U	0.252	0.373 J	1 UJ	1 U	1.0 U	0.97 J		
13	MW-604	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	4 U	2.9 U	0.27 J	0.5 U	0.8 U	0.1 U	0.1 U						
13	MW-604	Groundwater	TIN	Copper	ug/l	2 U	2 U	2 U	4 UJ	2.1 U	1.2 J	1.1 U	6 U	2.09	0.5 U	4.35	1.89 J	3.7	2.01		
13	MW-604	Groundwater	TIN	Iron	ug/l	218 UJ	123	114	100 U	572	428	301	1000 U	1450							
13	MW-604	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	2 U	0.019 U	0.21 J	1.6 U	2 U	0.373	0.15 U	1 U	1 U	0.075 U	0.030 U		
13	MW-604	Groundwater	TIN	Magnesium	ug/l	17800	12700	31400	15700	15800	9140	10800	5690	5240							
13	MW-604	Groundwater	TIN	Manganese	ug/l	59	29	39.1	8.8 J	14.9	3.8 J	5.5 J	4 U	2.81	4.2						
13	MW-604	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.1 U	0.12 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U		
13	MW-604	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	4 U	3.6 U	1.1 U	0.7 U	2 U	0.5 U	0.5 U	2.73 U	2 U	0.43 J	0.16 J		
13	MW-604	Groundwater	TIN	Potassium	ug/l	8080	5840	18300 J	6190	8030	8070	11800 J	7770	6940							
13	MW-604	Groundwater	TIN	Selenium	ug/l	3 U	3 U	2 U	3 U	2 J	3.2	1.1 J	5 U	1.62	1.35	4.28	2 U	1.4 UJ	7.8 J		
13	MW-604	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U	0.7 U	2 U	0.35 U	1.32 J	1 U	1 U	0.085 U	0.030 U		
13	MW-604	Groundwater	TIN	Sodium	ug/l	110000	41100	320000	89200	135000	89800	117000 J		156000							

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-604	Groundwater	TIN	Thallium	ug/l	3 UJ	3 UJ	2 U	10 U	0.008 U	0.012 U	3.5 U	1 U	0.25 U	0.25 U	1 U	1 U	0.044 U	0.020 U		
13	MW-604	Groundwater	TIN	Vanadium	ug/l	5 U	5 U	5 U	3 UJ	2 U	1.7 J	0.7 J	20 U	2.66	2.77						
13	MW-604	Groundwater	TIN	Zinc	ug/l	129	5 U	5 U	26.9 U	4.8	2.6 J	12.6 J	25 U	6.25	1.06	5.01 U	5 U	5.0 U	1.14 J		
13	MW-604	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	0.13 J	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW-604	Groundwater	VOA	1,1-Dichloroethane	ug/l	1 UJ	1 U	1 U	1 U	0.14 J	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	1,1-Dichloropropene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					1 U	1 U		2 U	2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW-604	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		2.5 U	10 U	10 U	5 UJ		1.0 U		2.0 U	
13	MW-604	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		2.0 U	
13	MW-604	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.10 J	
13	MW-604	Groundwater	VOA	1,3-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U											
13	MW-604	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	2,2-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	2-Butanone	ug/l	5 U	5 U	5 U		5 U	5 U	5 U	50 U	50 U	50 U	10 UJ		5.0 U			
13	MW-604	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10 U	10 U	10 U						
13	MW-604	Groundwater	VOA	2-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	2-Hexanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	10 UJ		5.0 U			
13	MW-604	Groundwater	VOA	4-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	4-Isopropyltoluene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW-604	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	5 UJ		5.0 U			
13	MW-604	Groundwater	VOA	Acetone	ug/l	5 U	5 U	5 U		5 U	5 U	5 U		50 U	50 U	25 UJ		5.0 U		20 UJ	
13	MW-604	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW-604	Groundwater	VOA	Benzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U	0.5 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Bromobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Bromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Bromodichloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Bromoform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Bromomethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	5 U	5 U	5 UJ		1.0 U			
13	MW-604	Groundwater	VOA	BTEX (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U											
13	MW-604	Groundwater	VOA	Carbon disulfide	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	2 U	2 U	10 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Carbon tetrachloride	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Chlorobenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Chloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Chloroform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Chloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	0.65 J	1.1	0.36 J	1 U	1.2	0.62 J	0.6 J	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Dibromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Dibromomethane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Dichlorodifluoromethane	ug/l							1 U	1 U	5 U	5 U	5 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Ethylbenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Hexachlorobutadiene	ug/l								2 U	2 U	2 U	4 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW-604	Groundwater	VOA	Isopropylbenzene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW-604	Groundwater	VOA	m,p-Xylene	ug/l	0.2 U	0.2 U	0.2 U				1 U		2 U	0.65 J	2 UJ		2.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Methylene chloride	ug/l	2 U	1 U	1 U	2 U	2 U	2 U	1 U	5 U	5 U	1.2 U	5 UJ		1.0 U		2.0 U	
13	MW-604	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW-604	Groundwater	VOA	Naphthalene	ug/l								2 U	2 U	3.6	2 UJ		1.0 U			

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						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-604	Groundwater	VOA	n-Butylbenzene	ug/l								1 U	2 U	2 U	5 UJ		1.0 U			
13	MW-604	Groundwater	VOA	n-Propylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	o-Xylene	ug/l	0.2 U	0.2 U	0.2 U		0.2 U		1 U		2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	sec-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Styrene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	tert-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Tetrachloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.10 J	
13	MW-604	Groundwater	VOA	Toluene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.3 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.70 U	
13	MW-604	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW-604	Groundwater	VOA	Trichloroethene	ug/l	2.5	3.4	1.5	1 U	3.8	1.6	0.8 J	1 U	2 U	2 U	0.36 J		1.0 U		0.21 J	
13	MW-604	Groundwater	VOA	Trichlorofluoromethane	ug/l							1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-604	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW-604	Groundwater	VOA	Vinyl chloride	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 UJ	1 UJ		1.0 U		0.50 U	
13	MW-604	Groundwater	VOA	Xylenes	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U		2 U							1.0 U	
13	MW-604	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	1 U										1.0 U	
13	MW-605	Groundwater	DIN	Aluminum	ug/l	50 U	50 U	50 U		27 U	186	80.6 U		4.34	3.85						
13	MW-605	Groundwater	DIN	Antimony	ug/l	7.1 J	5 U	5 U		0.046 U	0.054 J	1.6 U		0.105	0.321	1 U	1 U	0.056 U	0.09 UJ 0.05 J		
13	MW-605	Groundwater	DIN	Arsenic	ug/l	2.9 J	3.7 J	2.7		2.8	0.41 J	4.5 J		4.16	4.91	3.7	3.56 J	4.1	4.73 4.70	4.17 4.21	4.92
13	MW-605	Groundwater	DIN	Barium	ug/l	64 J	61.4	55.8		59.8	65.8	70.2 J		59.3	61.4	57.9	57.8	56.1		51.8 52.9	60.7
13	MW-605	Groundwater	DIN	Beryllium	ug/l	1 U	1 U	1 U		0.33 U	0.28	0.6 U		0.15 U	0.15 U	1 U	1 U	0.043 U	0.020 U 0.020 U		
13	MW-605	Groundwater	DIN	Cadmium	ug/l	1 U	1 U	1 U		0.047 U	2.5	0.3 U		0.2 U	0.2 U	1 U	0.1 U	0.16 J	0.020 UJ 0.020 UJ		
13	MW-605	Groundwater	DIN	Calcium	ug/l	88300	87700	87300		93500	84700	96000		89500	85000						
13	MW-605	Groundwater	DIN	Chromium	ug/l	5 U	5 U	5 U		6.4 J	1.3 J	0.7 J		0.195	3.86	1 U	1 U	1.0 U	0.71 J 0.72 J		
13	MW-605	Groundwater	DIN	Cobalt	ug/l	5.1 J	5 U	5 U		4.7 J	37	4.4 J		4.14	8.27						
13	MW-605	Groundwater	DIN	Copper	ug/l	2 U	2 U	2 U		2.1 U	1.8 J	1.1 U		0.389	0.595	2 U	2 U	2.0 U	0.46 0.47		
13	MW-605	Groundwater	DIN	Iron	ug/l	6560	6350	5380 J		6190	5730	6690		6240	7100						
13	MW-605	Groundwater	DIN	Lead	ug/l	2 U	2 U	1 U		0.019 U	0.7 J	1.6 U		0.111	0.177	1 U	1 U	0.075 U	0.030 U 0.030 U		
13	MW-605	Groundwater	DIN	Magnesium	ug/l	28100	27500	26500		27600	25900	29000		30300	27000						
13	MW-605	Groundwater	DIN	Manganese	ug/l	4220	4040	3850		3850	4110	4070		3890	3800						
13	MW-605	Groundwater	DIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ		0.1 U	0.2 U	0.2 U			0.2 U	0.545	0.2 U	0.0180 UJ	0.20 U 0.20 U		
13	MW-605	Groundwater	DIN	Nickel	ug/l	5 U	5 U	5 U		3.6 U	1.3 J	2 J		4.39	4.17	2.15	2.17	4.6	3.66 3.78		
13	MW-605	Groundwater	DIN	Potassium	ug/l	10100	9690	10500 J		10200	9980	13500 J		9410	9000						
13	MW-605	Groundwater	DIN	Selenium	ug/l	3 U	3 U	2 U		2.2 J	1.6 J	1.7 J		0.5 U	0.892	1.61	2 U	3.6 J	1.2 J 1.3 J		
13	MW-605	Groundwater	DIN	Silver	ug/l	5 U	5 U	5 U		3 U	0.5 U	0.7 U		0.346	0.1 U	1 U	1 U	0.085 U	0.030 U 0.030 U		
13	MW-605	Groundwater	DIN	Sodium	ug/l	61200	56600	54600		62800	63800	66400 J		71600	67000						
13	MW-605	Groundwater	DIN	Thallium	ug/l	3 UJ	3 U	2 U		0.008 U	0.26 J	3.5 U		0.0521	0.118	1 U	1 U	0.044 U	0.037 0.032		
13	MW-605	Groundwater	DIN	Vanadium	ug/l	5 U	5 U	5 U		2.8 J	1.2 J	1.1 J		5 U	5 U						
13	MW-605	Groundwater	DIN	Zinc	ug/l	5 U	6.5 J	5 U		4.5 J	2.4 J	5.1 U		11	2.31	1.92 UJ	1.52 J	5.0 UJ	2.35 J 2.12 J		
13	MW-605	Groundwater	P/A	4,4-DDD	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	4,4-DDE	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	4,4-DDT	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	Aldrin	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.00909 U							
13	MW-605	Groundwater	P/A	alpha-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0109 U							
13	MW-605	Groundwater	P/A	alpha-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0103 U							
13	MW-605	Groundwater	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.21 U		0.52 U							
13	MW-605	Groundwater	P/A	Aroclor 1221	ug/l	0.4 U	0.4 U	0.4 U		0.4 U	0.4 U	0.41 U		0.52 U							

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13	MW-605	Groundwater	P/A	Aroclor 1232	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.21 U		0.52 U							
13	MW-605	Groundwater	P/A	Aroclor 1242	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.21 U		0.52 U							
13	MW-605	Groundwater	P/A	Aroclor 1248	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.21 U		0.52 U							
13	MW-605	Groundwater	P/A	Aroclor 1254	ug/l	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.21 U		0.52 U							
13	MW-605	Groundwater	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U			0.2 U	0.21 U		0.52 U							
13	MW-605	Groundwater	P/A	beta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0123 U							
13	MW-605	Groundwater	P/A	Chlordane	ug/l									0.0103 U							
13	MW-605	Groundwater	P/A	Chlordane (total)	ug/l	0.01 U	0.01 U	0.01 U		0.01 U											
13	MW-605	Groundwater	P/A	DDT (total)	ug/l	0.02 U	0.02 U	0.02 U		0.02 U											
13	MW-605	Groundwater	P/A	delta-BHC	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0104 U							
13	MW-605	Groundwater	P/A	Dieldrin	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	Endosulfan (total)	ug/l	0.02 U	0.02 U	0.02 U		0.02 U											
13	MW-605	Groundwater	P/A	Endosulfan I	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	Endosulfan II	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	Endosulfan sulfate	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	Endrin	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0206 U							
13	MW-605	Groundwater	P/A	Endrin Aldehyde	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U	0.0214 U							
13	MW-605	Groundwater	P/A	Endrin ketone	ug/l	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.021 U	0.037 U								
13	MW-605	Groundwater	P/A	gamma-Chlordane	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0103 U							
13	MW-605	Groundwater	P/A	Heptachlor	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0189 U							
13	MW-605	Groundwater	P/A	Heptachlor epoxide	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.00869 U							
13	MW-605	Groundwater	P/A	Lindane	ug/l	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.037 U	0.0103 U							
13	MW-605	Groundwater	P/A	Methoxychlor	ug/l	0.1 U	0.1 UJ	0.1 UJ		0.1 U	0.1 U	0.1 U	0.037 U	0.0516 U							
13	MW-605	Groundwater	P/A	PCB (Sum Detect + .5 NonDetect	ug/l	0.4 U	0.4 U	0.4 U		0.4 U											
13	MW-605	Groundwater	P/A	Toxaphene	ug/l	1 U	1 U	1 U		1 U	1 U	1 U	3 U	0.515 U							
13	MW-605	Groundwater	SVOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U	1 U				5 U	28 U		5.3 U						
13	MW-605	Groundwater	SVOA	1,2-Dichlorobenzene	ug/l							5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	1,3-Dichlorobenzene	ug/l							5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	1,4-Dichlorobenzene	ug/l							3 J	22 U								
13	MW-605	Groundwater	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	1 U	1 U	1 UJ		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2,4,5-Trichlorophenol	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2,4,6-Trichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2,4-Dichlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2,4-Dimethylphenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		27 U						
13	MW-605	Groundwater	SVOA	2,4-Dinitrophenol	ug/l	5 U	5 U	5 U		20 U	20 U	10 U	200 U		110 U						
13	MW-605	Groundwater	SVOA	2,4-Dinitrotoluene	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2,6-Dinitrotoluene	ug/l	2 U	1 U	2 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2-Chloronaphthalene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	28 U		11 U						
13	MW-605	Groundwater	SVOA	2-Chlorophenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2-Methylnaphthalene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	28 U	0.0521 J	0.052 UJ					0.0072 J 0.0056 J	
13	MW-605	Groundwater	SVOA	2-Methylphenol	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	2-Nitroaniline	ug/l	5 U	5 U	5 UJ		20 U	20 U	5 U	22 U		110 U						
13	MW-605	Groundwater	SVOA	2-Nitrophenol	ug/l	2 U	1 U	2 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	3,3-Dichlorobenzidine	ug/l	5 UJ	1 U	1 U		5 U	5 U	5 U	22 U		21 U						
13	MW-605	Groundwater	SVOA	3-Nitroaniline	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	22 U		53 U						
13	MW-605	Groundwater	SVOA	4,6-Dinitro-2-methylphenol	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	200 U		27 U						
13	MW-605	Groundwater	SVOA	4-Bromophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	4-Chloro-3-methylphenol	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	4-Chloroaniline	ug/l	2 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	4-Chlorophenyl methylsulfone	ug/l										21 U						
13	MW-605	Groundwater	SVOA	4-Chlorophenyl-phenylether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	4-Methylphenol	ug/l	2 U	1 U	1 U		5 U	5 U	5 U			5.3 U						
13	MW-605	Groundwater	SVOA	4-Nitroaniline	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	22 U		53 U						
13	MW-605	Groundwater	SVOA	4-Nitrophenol	ug/l	5 U	5 U	5 UJ		20 U	20 U	5 U	160 U		110 U						
13	MW-605	Groundwater	SVOA	Acenaphthene	ug/l	1 U	1 U	0.5 U		1 U	1 U	1 U	28 U	0.0521 U	0.052 UJ	0.1 U				0.0065 J 0.0058 J	
13	MW-605	Groundwater	SVOA	Acenaphthylene	ug/l	1 U	1 U	0.5 U		1 U	2 U	2.1 U	22 U	0.0521 U	0.052 UJ					0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Aniline	ug/l								22 U		5.3 U						
13	MW-605	Groundwater	SVOA	Anthracene	ug/l	0.66 U	0.275	0.5 U		0.1 U	0.1 U	0.1 U	22 U	0.313 U	0.31 UJ	0.1 U				0.012 J 0.016 J	

Summary of Chemicals Detected 1996 through 2010
Groundwater
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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-605	Groundwater	SVOA	Azobenzene	ug/l								220 U								
13	MW-605	Groundwater	SVOA	Benzidine	ug/l										210 U						
13	MW-605	Groundwater	SVOA	Benzo(a)anthracene	ug/l	0.01 U	0.2 U	0.01 U		0.1 U	0.1 U	0.1 U	22 U	0.0521 U	0.052 UJ					0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Benzo(a)pyrene	ug/l	0.02 U	0.25 U	0.02 U		0.1 U	0.1 U	0.1 U	22 U	0.0656 U	0.066 UJ	0.1 U				0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Benzo(b)fluoranthene	ug/l	0.02 U	1 U	0.02 U		0.1 U	0.2 U	0.21 U	22 U	0.0521 U	0.052 UJ	0.1 U				0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Benzo(g,h,i)perylene	ug/l	0.08 U	0.75 U	0.08 UJ		0.1 U	0.2 U	0.21 U	28 U	0.0938 U	0.052 UJ	0.1 U				0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Benzo(k)fluoranthene	ug/l	0.02 U	0.3 U	0.02 UJ		0.1 U	0.1 U	0.1 U	28 U	0.104 U	0.052 UJ	0.1 U				0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Benzofluoranthenes (total)	ug/l	0.02 U	1 U	0.02 U		0.1 U											
13	MW-605	Groundwater	SVOA	Benzoic acid	ug/l								56 U		140 U						
13	MW-605	Groundwater	SVOA	Benzyl alcohol	ug/l								22 U		11 U						
13	MW-605	Groundwater	SVOA	bis(2-Chloroethoxy)methane	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	28 U		5.3 U						
13	MW-605	Groundwater	SVOA	bis(2-Chloroethyl)ether	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	bis(2-Ethylhexyl)adipate												10 U					
13	MW-605	Groundwater	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	44	1 U	1 UJ		5 U	5 U	29	22 U		5.3 U	0.558 UJ		0.49 U		2.0 U 2.0 U	
13	MW-605	Groundwater	SVOA	Butylbenzylphthalate	ug/l	1 U	1 U	1 UJ		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	Carbazole	ug/l							5 U									
13	MW-605	Groundwater	SVOA	Chrysene	ug/l	0.15 U	0.2 U	0.15 U		0.05 U	0.1 U	0.1 U	22 U	0.0521 U	0.052 UJ					0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	CPAH (total)	ug/l	0.15 U	1 U	0.15 U		0.5 U											
13	MW-605	Groundwater	SVOA	Dibenz(a,h)anthracene	ug/l	0.03 U	1 U	0.03 U		0.5 U	0.2 U	0.21 U	28 U	0.156 U	0.052 UJ					0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Dibenzofuran	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	Diethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	Dimethylphthalate	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	Di-n-butylphthalate	ug/l	1 U	1 U	1 UJ		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	Di-n-octylphthalate	ug/l	2	1 U	1 UJ		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	Fluoranthene	ug/l	0.21 U	0.5 U	0.21 UJ		0.5 U	0.2 U	0.21 U	22 U	0.0625	0.052 UJ	0.0968 J				0.084 0.073	
13	MW-605	Groundwater	SVOA	Fluorene	ug/l	0.21 U	0.5 U	0.21 UJ		0.1 U	0.1 U	0.1 U	22 U	0.125 U	0.052 UJ	0.1 U				0.0069 J 0.0072 J	
13	MW-605	Groundwater	SVOA	Hexachlorobenzene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U	5 U					
13	MW-605	Groundwater	SVOA	Hexachlorobutadiene	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	33 U		5.3 U						
13	MW-605	Groundwater	SVOA	Hexachlorocyclopentadiene	ug/l	2 U	1 U	1 U		5 U	5 U	5 U	33 U		11 UJ	10 UJ					
13	MW-605	Groundwater	SVOA	Hexachloroethane	ug/l	1 U	1 U	2 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	HPAH (total)	ug/l	0.27 U	1 U	0.27 U		0.5 U											
13	MW-605	Groundwater	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.04 U	0.3 U	0.04 U		0.1 U	0.1 U	0.1 U	22 U	0.208 U	0.052 UJ					0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Isophorone	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	28 U		5.3 U						
13	MW-605	Groundwater	SVOA	LPAH (total)	ug/l	1 U	0.275	0.5 U		2 U											
13	MW-605	Groundwater	SVOA	m,p-Cresols	ug/l								22 U								
13	MW-605	Groundwater	SVOA	Naphthalene	ug/l	1 U	1 U	0.5 UJ		2 U	1 U	1 U	22 U	0.115 J	0.25 UJ	0.1 U				0.14 0.16	
13	MW-605	Groundwater	SVOA	NCPAH (total)	ug/l	1 U	0.275	1 U		5 U											
13	MW-605	Groundwater	SVOA	Nitrobenzene	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	N-Nitrosodimethylamine	ug/l								22 U								
13	MW-605	Groundwater	SVOA	N-Nitrosodinpropylamine	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		5.3 U						
13	MW-605	Groundwater	SVOA	N-Nitrosodiphenylamine	ug/l	1 U	1 U	1 U		5 U	5 U	5 U	22 U		11 U						
13	MW-605	Groundwater	SVOA	Pentachlorophenol	ug/l	5 U	5 U	5 U		20 U	20 U	5 U	160 U		5.3 U	1 U					
13	MW-605	Groundwater	SVOA	Phenanthrene	ug/l	0.64 U	0.25 U	0.5 U		0.1 U	0.1 U	0.1 U	22 U	0.0521 U	0.052 UJ					0.020 U 0.021 U	
13	MW-605	Groundwater	SVOA	Phenol	ug/l	1 U	1 U	1 UJ		5 U	5 U	5 U	11 U		5.3 U						
13	MW-605	Groundwater	SVOA	Pyrene	ug/l	0.27 U	0.1 U	0.27 UJ		0.1 U	0.1 U	0.1 U	22 U	0.0521 U	0.065	0.0912 J				0.058 0.045	
13	MW-605	Groundwater	TIN	Aluminum	ug/l	227 UJ	51 J	50 U	53400	27 U	43 U	80.6 U	876	81.8	732						
13	MW-605	Groundwater	TIN	Antimony	ug/l	5 U	5 U	5 U	5 U	0.046 U	0.23 J	1.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.25 UJ	0.09 UJ 0.09 UJ		

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						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-605	Groundwater	TIN	Arsenic	ug/l	2.3 J	3.4 J	2.4	2 U	3.1	4.8	3.7 J	7.07	4.33	6.47	4.33	7.05	4.1	5.09 5.25	5.14 5.50	5
13	MW-605	Groundwater	TIN	Barium	ug/l	62.2 J	61.2	55.6	201	58.6	64.8	66.8 J	66.4	59.8	69	57.9	64.3	55.1 J		61.4 67.1	61.3
13	MW-605	Groundwater	TIN	Beryllium	ug/l	1 U	1 U	1 U	0.57 J	0.33 U	0.28 U	0.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.043 U	0.020 U 0.020 U		
13	MW-605	Groundwater	TIN	Cadmium	ug/l	1 U	1 U	1 U	1 U	0.047 U	1.2	0.3 U	2 U	0.2 U	0.2 U	1 U	0.1 U	0.094 U	0.032 J 0.041 J		
13	MW-605	Groundwater	TIN	Calcium	ug/l	89200	87800	86600	104000	91300	89400	95300	98000	94000							
13	MW-605	Groundwater	TIN	Chromium	ug/l	5 U	5 U	5 U	26.6 J	6.4 U	0.9 J	1.6 J	9.57	0.229	0.452	1 U	1 U	1.0 U	0.86 J 1.00		
13	MW-605	Groundwater	TIN	Cobalt	ug/l	5 U	5 U	5 U	20.4	4.6 J	4.7 J	4.7 J	4.56	4.24	4.52						
13	MW-605	Groundwater	TIN	Copper	ug/l	2 U	2 U	2 U	114	2.1 U	1 J	1.1 U	6 U	0.839	2.08 J	2 U	3.54	0.91 J	1.07 1.27		
13	MW-605	Groundwater	TIN	Iron	ug/l	6720 J	6370	5370	29800	6290	6020	7690	8360	6130							
13	MW-605	Groundwater	TIN	Lead	ug/l	2 U	2 U	1 U	9.1	0.019 U	0.13 J	1.6 U	2 U	0.15 U	0.219	1 U	0.36 J	0.075 U	0.071 0.099		
13	MW-605	Groundwater	TIN	Magnesium	ug/l	28100	27700	26500	32000	27000	27000	28400	28300	29700							
13	MW-605	Groundwater	TIN	Manganese	ug/l	4250	4050	3830	4540	3860	4100	4010	3850	3960	3820						
13	MW-605	Groundwater	TIN	Mercury	ug/l	0.2 UJ	0.2 U	0.2 UJ	0.17	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.56	0.2 U	0.0180 UJ	0.20 U 0.20 U		
13	MW-605	Groundwater	TIN	Nickel	ug/l	5 U	5 U	5 U	15.1 J	3.6 U	1.8 J	2.8 J	2.67	4.16	4.75	4.29	2.52	5.0	3.69 3.77		
13	MW-605	Groundwater	TIN	Potassium	ug/l	10200	9570	10400 J	10900	9930	10300	13300 J	10100	9570							
13	MW-605	Groundwater	TIN	Selenium	ug/l	3 U	3 U	2 U	3 U	2.4 J	4.2	1.9 J	5 U	0.704	0.709	3.54	2 U	3.5	1.9 J 1.8 J		
13	MW-605	Groundwater	TIN	Silver	ug/l	5 U	5 U	5 U	4 U	3 U	0.5 U	0.7 U	2 U	0.35 U	0.41	0.06 UJ	1 U	0.085 U	0.030 U 0.030 U		
13	MW-605	Groundwater	TIN	Sodium	ug/l	61000	55700	54400	61500	61600	64900	64500 J		65100							
13	MW-605	Groundwater	TIN	Thallium	ug/l	3 UJ	3 UJ	2 U	10 U	1.1 J	1 J	3.5 U	1 U	0.25 U	0.25 U	1 U	0.077 J	0.044 U	0.044 0.046		
13	MW-605	Groundwater	TIN	Vanadium	ug/l	5 U	5 U	5 U	90.3	2 U	1.5 J	1.2 J	20 U	1.57	3.24						
13	MW-605	Groundwater	TIN	Zinc	ug/l	5 U	5 U	5 U	86.8	4.3 J	2.4 J	17.6 J	25 U	7.71	3.03	5 UJ	3.04 J	5.0 U	1.21 J 3.82		
13	MW-605	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U						
13	MW-605	Groundwater	VOA	1,1-Dichloroethane	ug/l	6 J	2.5	6 J	5.2	4.6	3.2	3.1	2.24	2.1	2	1.93 J		2.4		1.9 1.9	
13	MW-605	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	1,1-Dichloropropene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	1,2,3-Trichloropropane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l					0.16 J	1 U		2 U	2 U	2 U	1 UJ		1.0 U		2.0 U 2.0 U	
13	MW-605	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		2.5 U	10 U	10 U	5 UJ		1.0 U		2.0 U 2.0 U	
13	MW-605	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U		2.0 U 2.0 U	
13	MW-605	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	0.45	0.2 U	0.51	1 U	0.46 J	0.62 J		1 U	2 U	2 U	0.28 J		1.0 U		0.37 J 0.38 J	
13	MW-605	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 U	1 U	0.2 J	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-605	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	1.7	0.69	2	2.1	1.9	2.2		1.53	1.4 J	1.1 J	1.35 J		1.6		1.2 1.2	
13	MW-605	Groundwater	VOA	1,3-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U											
13	MW-605	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	12	4.4	13	13	11	11		6.21	5.4	4.7	5.1 J		5.0		3.8 3.8	
13	MW-605	Groundwater	VOA	2,2-Dichloropropane	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	2-Butanone	ug/l	5 U	5 U	5 U		5 U	5 U	5 U	50 U	50 U	50 U	10 UJ		5.0 U			
13	MW-605	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l								10 U	10 U	10 U						
13	MW-605	Groundwater	VOA	2-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	2-Hexanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	10 UJ		5.0 U			
13	MW-605	Groundwater	VOA	4-Chlorotoluene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	4-Isopropyltoluene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW-605	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	20 U	20 U	5 UJ		5.0 U			
13	MW-605	Groundwater	VOA	Acetone	ug/l	5 U	4.6 J	5 U		5 U	5 U	5 U		50 U	4.2 J	25 UJ		5.0 U		20 UJ 20 UJ	
13	MW-605	Groundwater	VOA	Acrylonitrile	ug/l									10 U	10 U						
13	MW-605	Groundwater	VOA	Benzene	ug/l	0.69	0.29	0.74	0.96 J	1	0.76 J	0.5 J	0.54	0.54 J	0.42 J	0.64 J		0.50 J		0.56 0.56	
13	MW-605	Groundwater	VOA	Bromobenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Bromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U		1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Bromodichloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Bromoform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Bromomethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	5 U	5 U	5 UJ		1.0 U			
13	MW-605	Groundwater	VOA	BTEX (total)	ug/l	0.93	0.29	0.74	0.96	1											
13	MW-605	Groundwater	VOA	Carbon disulfide	ug/l	0.24 J	1 U	1 U	1 U	1 U	1 U	1 U	10 U	2 U	2 U	10 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	Carbon tetrachloride	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	Chlorobenzene	ug/l	12	4.4	17	17	20	22	18	17.5	18	17	18 J		24		25 25	
13	MW-605	Groundwater	VOA	Chloroethane	ug/l	4.8	1.4	6.4	6	5.2	4.5	5.2	3.42	3.6 J	4.7 J	4.43 J		7.9		5.7 5.5	
13	MW-605	Groundwater	VOA	Chloroform	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Chloromethane	ug/l	1 U	1 U	1 U	3.7	1 U	1 U	1 U	1 U	5 U	5 U	5 UJ		1.0 UJ		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	0.72 J	0.24 J	0.66 J	0.77 J	0.78 J	0.87 J	0.8 J	1 U	0.65 J	2 U	0.52 J		1.0 U		0.48 J 0.46 J	
13	MW-605	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Dibromochloromethane	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Dibromomethane	ug/l								2 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Dichlorodifluoromethane	ug/l							0.6 J	1 U	5 U	5 U	1.21 J		1.6 J			
13	MW-605	Groundwater	VOA	Ethylbenzene	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.2 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	Hexachlorobutadiene	ug/l								2 U	2 U	2 U	4 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Iodomethane	ug/l									5 U	5 U						
13	MW-605	Groundwater	VOA	Isopropylbenzene	ug/l								1 U	2 U	2 U	2 UJ		1.0 U			
13	MW-605	Groundwater	VOA	m,p-Xylene	ug/l	0.2 U	0.2 U	0.2 U				1 U		2 U	2 U	2 UJ		2.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Methylene chloride	ug/l	2 U	1 U	1 U	2 U	0.15 J	2 U	1 U	5 U	5 U	0.57 J	5 UJ		1.0 U		0.11 J 2.0 U	
13	MW-605	Groundwater	VOA	m-Xylene	ug/l					0.4 U											
13	MW-605	Groundwater	VOA	Naphthalene	ug/l								2 U	2 U	2 U	2 UJ		1.0 U			
13	MW-605	Groundwater	VOA	n-Butylbenzene	ug/l								1 U	2 U	2 U	5 UJ		1.0 U			
13	MW-605	Groundwater	VOA	n-Propylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	o-Xylene	ug/l	0.2 U	0.2 U	0.2 U		0.2 U		1 U		2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	sec-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Styrene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	tert-Butylbenzene	ug/l								1 U	2 U	2 U	1 UJ		1.0 U			

Summary of Chemicals Detected 1996 through 2010
Groundwater
Metals Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						7/96	11/96	5/97	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/10
13	MW-605	Groundwater	VOA	Tetrachloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	Toluene	ug/l	0.24	0.2 U	0.2 U	1 U	0.3 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.84 U 1.0 U	
13	MW-605	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 U	0.11 J	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l									10 U	10 U						
13	MW-605	Groundwater	VOA	Trichloroethene	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	Trichlorofluoromethane	ug/l							1 U	1 U	2 U	2 U	1 UJ		1.0 U			
13	MW-605	Groundwater	VOA	Vinyl acetate	ug/l									5 U	5 U						
13	MW-605	Groundwater	VOA	Vinyl chloride	ug/l	1 U	1 U	1 U	1 U	0.11 J	1 U	1 U	2 U	2 U	2 UJ	1 UJ		1.0 U		0.50 U 0.50 U	
13	MW-605	Groundwater	VOA	Xylenes	ug/l	0.2 U	0.2 U	0.2 U	1 U		1 U		2 U							1.0 U 1.0 U	
13	MW-605	Groundwater	VOA	Xylenes (total)	ug/l	0.2 U	0.2 U	0.2 U	1 U	0.4 U										1.0 U 1.0 U	

Notes:
Blank cells in the concentration columns indicate that a sample was not collected from that location or the sample was not analyzed for that chemical.
J - estimated value
U - not detected, value shown is the reporting limit.
UJ - estimated reporting limit
ug/l - micrograms per liter

Summary of Chemicals Detected 1996 through 2010
Sediment
Palisades Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	101	Sediment	P/A	4,4-DDD	ug/kg	3.6 U	2.6 U	0.26 U	0.26 U	0.29 U	10000 U	6.3 U	0.81 U	2 U	5.9 U								
11	101	Sediment	P/A	4,4-DDE	ug/kg	3.6 U	2.6 U	0.26 U	0.13 U	0.15 U	10000 U	6.3 U	0.81 U	2 U	3.5 U								
11	101	Sediment	P/A	4,4-DDT	ug/kg	3.6 U	0.99 J	0.11 NJ	0.25 J	0.29 U	10000 U	6.3 U	0.81 U	2 U	4.2 U								
11	101	Sediment	P/A	Aldrin	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.15 U	10000 U	3.3 U	0.42 U	2 U	5.2 U								
11	101	Sediment	P/A	alpha-BHC	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.15 U	10000 U	3.3 U	0.42 U	2 U	3.9 U								
11	101	Sediment	P/A	alpha-Chlordane	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.03 J	10000 U	3.3 U	0.42 U	2 U	4.2 U								
11	101	Sediment	P/A	Aroclor 1016	ug/kg	36 U	5.2 U	2.6 U	2.6 U	2.9 U	100 U	63 U	8.1 U	39.5 U	10 U	15 U	16.6 U		48 U		7.1 U		7.5U
11	101	Sediment	P/A	Aroclor 1221	ug/kg	73 U	52 U	5.3 U	5.2 U	5.9 U	100 U	130 U	16 U	39.5 U	10 U	15 U	33.5 U		48 U		15 U		15U
11	101	Sediment	P/A	Aroclor 1232	ug/kg	36 U	26 U	2.6 U	2.6 U	2.9 U	100 U	63 U	8.1 U	39.5 U	10 U	15 U	16.6 U		48 U		7.1 U		7.5U
11	101	Sediment	P/A	Aroclor 1242	ug/kg	36 U	26 U	2.6 U	2.6 U	2.9 U	100 U	63 U	8.1 U	39.5 U	10 U	15 U	16.6 U		48 U		7.1 U		7.5U
11	101	Sediment	P/A	Aroclor 1248	ug/kg	36 U	26 U	2.6 U	2.6 U	2.9 U	100 U	63 U	8.1 U	39.5 U	10 U	15 U	16.6 U		48 U		7.1 U		7.5U
11	101	Sediment	P/A	Aroclor 1254	ug/kg	36 U	26 U	2.6 U	2.6 U	2.9 U	100 U	63 U	8.1 U	39.5 U	10 U	15 U	16.6 U		48 U		7.1 U		7.5U
11	101	Sediment	P/A	Aroclor 1260	ug/kg	36 U	16 NJ	2.6 U	4.8	8.2	100 U	63 U	12	39.5 U	10 U	15 U	16.6 U		48 U		4.8 J		6.8J
11	101	Sediment	P/A	beta-BHC	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.15 U	10000 U	3.3 U	0.42 U	2 U	1.2 J								
11	101	Sediment	P/A	Chlordane	ug/kg										4.2 U								
11	101	Sediment	P/A	Chlordane (total)	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.03	10000 U												
11	101	Sediment	P/A	DDT (total)	ug/kg	3.6 U	0.99	0.11	0.25	0.29 U	10000 U												
11	101	Sediment	P/A	delta-BHC	ug/kg	1.8 U	1.3 U	0.13 U	0.064 J	0.059 NJ	10000 U	3.3 U	0.42 U	2 U	4.2 J								
11	101	Sediment	P/A	Dieldrin	ug/kg	3.6 U	2.6 U	0.26 U	0.26 U	0.29 U	10000 U	6.3 U	0.81 U	2 U	3.9 U								
11	101	Sediment	P/A	Endosulfan (total)	ug/kg	3.6 U	2.6 U	0.039	0.12	0.26	10000 U												
11	101	Sediment	P/A	Endosulfan I	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.15 U	10000 U	3.3 U	0.42 U	2 U	3.2 U								
11	101	Sediment	P/A	Endosulfan II	ug/kg	3.6 U	2.6 U	0.039 NJ	0.12 NJ	0.26 J	10000 U	6.3 U	0.81 U	2 U	5.1 U								
11	101	Sediment	P/A	Endosulfan sulfate	ug/kg	3.6 U	2.6 U	0.26 U	0.26 U	0.29 U	10000 U	6.3 U	0.81 U	2 U	2.8 U								
11	101	Sediment	P/A	Endrin	ug/kg	3.6 UJ	0.48 J	0.094 J	0.13 NJ	0.16 NJ	10000 U	6.3 U	0.81 U	2 U	8.5 U								
11	101	Sediment	P/A	Endrin Aldehyde	ug/kg	3.6 U	0.98 J	0.26 U	0.31 NJ	0.61 NJ	10000 U	6.3 U	0.81 U	2 U	13 U								
11	101	Sediment	P/A	Endrin ketone	ug/kg	3.6 U	2.6 U	0.13 NJ	0.26 U	0.29 U	10000 U	6.3 U	0.81 U	2 U	2.3 U								
11	101	Sediment	P/A	gamma-Chlordane	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.15 U	10000 U	3.3 U	0.42 U	2 U	6.5 U								
11	101	Sediment	P/A	Heptachlor	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.15 U	10000 U	3.3 U	0.42 U	2 U	15 U								
11	101	Sediment	P/A	Heptachlor epoxide	ug/kg	1.8 U	1.3 U	0.13 U	0.055 J	0.15 U	10000 U	3.3 U	0.42 U	2 U	8.5 U								
11	101	Sediment	P/A	Lindane	ug/kg	1.8 U	1.3 U	0.13 U	0.13 U	0.15 U	10000 U	3.3 U	0.42 U	2 U	10 U								
11	101	Sediment	P/A	Methoxychlor	ug/kg	18 U	13 U	0.26 U	0.16 NJ	0.29 U	20000 U	33 U	4.2 U	2 U	19 U								
11	101	Sediment	P/A	PCB (Sum Detect + .5 NonDetec	ug/kg	73 U	16	5.3 U	4.8	8.2	100 U												
11	101	Sediment	P/A	Technical Chlordane	ug/kg					5.9 U													
11	101	Sediment	P/A	Toxaphene	ug/kg	180 U	130 U	13 U	13 U	15 U	300000 U	330 U	42 U	130 U	31 U								
11	101	Sediment	SVOA	1,2,4-Trichlorobenzene	ug/kg	66 U	23 U	6 U	7 U	6 U	300 U	640 U	410 U	1300 U		220 U							
11	101	Sediment	SVOA	1,2-Dichlorobenzene	ug/kg	77 U	27 U	6 U	8 U	8 U	300 U	640 U	410 U	1300 U		240 U							
11	101	Sediment	SVOA	1,2-Diphenylhydrazine	ug/kg							640 U											
11	101	Sediment	SVOA	1,3-Dichlorobenzene	ug/kg	77 U	27 U	6 U	8 U	8 U	300 U	640 U	410 U	1300 U		240 U							
11	101	Sediment	SVOA	1,4-Dichlorobenzene	ug/kg	66 U	23 U	6 U	7 U	6 U	300 U	640 U	410 U	1300 U									
11	101	Sediment	SVOA	2,2-oxybis(1-Chloropropane)	ug/kg	190 U	65 U	16 U	20 U	18 U	300 U	640 U	410 U	1300 U		260 U							
11	101	Sediment	SVOA	2,4,5-Trichlorophenol	ug/kg	110 U	38 U	9 U	12 U	11 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	2,4,6-Trichlorophenol	ug/kg	120 U	42 U	10 U	13 U	12 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	2,4-Dichlorophenol	ug/kg	110 U	38 U	9 U	12 U	11 U	300 U	640 U	410 U	1300 U		200 U							
11	101	Sediment	SVOA	2,4-Dimethylphenol	ug/kg	150 U	53 U	13 U	17 U	15 U	300 U	640 U	410 U	1300 U		200 UJ							
11	101	Sediment	SVOA	2,4-Dinitrophenol	ug/kg	190 UJ	65 U	16 U	20 UJ	18 U	2000 U	1300 U	820 U	7790 U		1300 U							
11	101	Sediment	SVOA	2,4-Dinitrotoluene	ug/kg	190 U	65 U	16 U	20 U	18 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	2,6-Dinitrotoluene	ug/kg	170 U	57 U	14 U	18 U	16 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	2-Chloronaphthalene	ug/kg	88 U	30 U	7 U	10 U	9 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	2-Chlorophenol	ug/kg	88 U	30 U	7 U	10 U	9 U	300 U	640 U	410 U	1300 U		200 U							
11	101	Sediment	SVOA	2-Methylnaphthalene	ug/kg	180 U	61 U	15 U	19 U	17 U	300 U	640 U	8 U	909 U	96	20		15.7	19 U	0.48 J	0.35 J	1.1 J	16
11	101	Sediment	SVOA	2-Methylphenol	ug/kg	180 U	61 U	15 U	19 U	17 U	300 U	640 U	410 U	1300 U		200 U	134 U	134 U 387					
11	101	Sediment	SVOA	2-Nitroaniline	ug/kg	150 U	53 U	13 U	17 UJ	15 U	2000 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	2-Nitrophenol	ug/kg	110 U	38 U	9 U	12 U	11 U	300 U	640 U	410 U	1300 U		200 U							
11	101	Sediment	SVOA	3,3-Dichlorobenzidine	ug/kg	88 U	30 U	7 UJ	10 UJ	9 U	2000 U	1300 U	410 U	1300 U		200 U							
11	101	Sediment	SVOA	3-Nitroaniline	ug/kg	130 U	46 UJ	11 U	14 U	13 U	2000 U	640 U	410 U	650 U		200 U							

Summary of Chemicals Detected 1996 through 2010
Sediment
Palisades Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	101	Sediment	SVOA	4,6-Dinitro-2-methylphenol	ug/kg	170 U	57 U	14 U	18 U	16 U	2000 U	1300 U	410 U	7790 U		200 U							
11	101	Sediment	SVOA	4-Bromophenyl-phenylether	ug/kg	110 U	38 U	9 U	12 U	11 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	4-Chloro-3-methylphenol	ug/kg	280 U	95 U	23 U	30 U	27 U	300 U	640 U	410 U	1300 U		200 U							
11	101	Sediment	SVOA	4-Chloroaniline	ug/kg	200 U	68 U	17 U	21 U	19 U	300 U	640 U	410 U	1300 U		320 U							
11	101	Sediment	SVOA	4-Chlorophenyl methylsulfone	ug/kg											200 U							
11	101	Sediment	SVOA	4-Chlorophenyl-phenylether	ug/kg	120 U	42 U	10 U	13 U	12 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	4-Methylphenol	ug/kg	220 U	76 U	19 U	24 U	22 U	300 U	640 U	410 U			200 U							
11	101	Sediment	SVOA	4-Nitroaniline	ug/kg	140 U	49 U	12 U	15 UJ	14 U	2000 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	4-Nitrophenol	ug/kg	180 U	61 U	15 U	19 U	17 U	2000 U	1300 U	410 U	6500 U		200 UJ							
11	101	Sediment	SVOA	Acenaphthene	ug/kg	77 U	27 U	6 U	8 U	4 J	300 U	640 U	8 U	650 U	48	2 U	660 U	660 U	19 U	2.3 U	2.5 U	2.1 U	16
11	101	Sediment	SVOA	Acenaphthylene	ug/kg	88 U	30 U	7 U	10 U	9 U	300 U	640 U	8 U	650 U	37	2.3 U		15.7	19 U	2.3 U	2.5 U	2.1 U	4.5
11	101	Sediment	SVOA	Aniline	ug/kg						1000 U	640 U		2600 U		200 U							
11	101	Sediment	SVOA	Anthracene	ug/kg	77 U	27 U	6 U	10	15	300 U	640 U	8 U	650 U	21	2 U	660 U	660 U	19 U	2.3 U	2.5 U	2.1 U	39
11	101	Sediment	SVOA	Azobenzene	ug/kg									650 U									
11	101	Sediment	SVOA	Benzidine	ug/kg							3200 U											
11	101	Sediment	SVOA	**Benzo(a)anthracene**	ug/kg	77 U	27 U	6 U	19	20	300 U	640 U	8 U	650 U	28	2 U	660 U	660 U	19 U	2.3 U*	0.71 J*	2.5 U*	62
11	101	Sediment	SVOA	**Benzo(a)pyrene**	ug/kg	77 U	27 U	7	12	18	300 U	640 U	8 U	650 U	26	3.4 U	29.2	29.2	19 U	2.3 U*	0.62 J*	2.8 U*	54
11	101	Sediment	SVOA	**Benzo(b) fluoranthene**	ug/kg	100 U	34 U	13	23	20	300 U	29 J	8 U	909 U	39	61 J	660 U	660 U 15.7	19 U	2.3 U*	0.88 J*	5.7*	56
11	101	Sediment	SVOA	**Benzo(g,h,i)perylene**	ug/kg	150 U	53 U	13 U	7 J	9 J	300 U	640 U	8 U	909 U	19	2 U	660 U	660 U	19 U	2.3 U*	1.2 J*	4*	31.0
11	101	Sediment	SVOA	**Benzo(k) fluoranthene**	ug/kg	88 U	30 U	7 U	9 J	10	300 U	640 U	8 U	650 U	13	2 U	660 U	660 U 15.7	19 U	2.3 U*	2.5 U*	2.1 U*	18
11	101	Sediment	SVOA	Benzofluoranthenes (total)	ug/kg	100 U	34 U	13	32	30	300 U												
11	101	Sediment	SVOA	Benzoic acid	ug/kg						2000 U	68 J		6500 U		1600 UJ	2000 U	2000 U 1170					
11	101	Sediment	SVOA	Benzyl alcohol	ug/kg						300 U	640 U		909 U		200 U							
11	101	Sediment	SVOA	bis(2-Chloroethoxy) methane	ug/kg	150 U	53 U	13 U	17 U	15 U	300 U	640 U	410 U	909 U		230 U							
11	101	Sediment	SVOA	bis(2-Chloroethyl)ether	ug/kg	120 U	42 U	10 U	13 U	12 U	300 U	640 U	410 U	1300 U		240 U							
11	101	Sediment	SVOA	bis(2-Ethylhexyl) phthalate	ug/kg	140 J	32 U	31 U	23 J	10 U	300 U	36 J	410 U	650 U		200 U	4000 U	4000 U 15.7	34 U	5.1 J	5.0 J	84 U	75U
11	101	Sediment	SVOA	Butylbenzylphthalate	ug/kg	190 U	65 U	16 U	20 U	18 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	Carbazole	ug/kg	88 U	30 UJ	7 U	5 J	5 J		640 U	410 U				660 U	660 U 387					
11	101	Sediment	SVOA	Chrysene	ug/kg	100 U	34 U	20	24	24	300 U	33 J	8 U	650 U	30	120 J	660 U	660 U	19 U	2.3 U	1.5 J	5.5	82
11	101	Sediment	SVOA	CPAH (total)	ug/kg	220 U	76 U	40	95	101	300 U												
11	101	Sediment	SVOA	Dibenz(a,h)anthracene	ug/kg	220 U	76 U	19 U	24 U	22 U	300 U	640 U	8 U	909 U	7.1	2 U		15.7	19 U	2.3 U	0.31 J	2.1 U	6.3
11	101	Sediment	SVOA	Dibenzofuran	ug/kg	88 U	30 U	7 U	10 U	9 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	Diethylphthalate	ug/kg	170 U	57 U	14 U	18 U	16 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	Dimethylphthalate	ug/kg	55 U	19 U	5 U	6 U	5 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	Di-n-butylphthalate	ug/kg	150 U	53 U	13 U	17 U	15 U	300 U	640 U	410 U	650 U		270	2000 U	2000 U 15.7					
11	101	Sediment	SVOA	Di-n-octylphthalate	ug/kg	200	57 U	14 UJ	18 UJ	16 U	300 U	640 U	460 J	650 U		200 U	660 U	660 U 15.7					
11	101	Sediment	SVOA	Fluoranthene	ug/kg	77 U	27 U	12	38	43	300 U	79 J	17	650 U	60	100 J	660 U	660 U	19 U	0.49 J	2.5 U	5.7	200
11	101	Sediment	SVOA	Fluorene	ug/kg	100 U	34 U	8 U	11 U	8 J	300 U	640 U	8 U	650 U	42	2 U	660 U	660 U	19 U	2.3 U	2.5 U	2.1 U	26
11	101	Sediment	SVOA	Hexachlorobenzene	ug/kg	220 U	76 U	19 U	24 U	22 U	300 U	640 U	410 U	650 U		200 U							
11	101	Sediment	SVOA	Hexachlorobutadiene	ug/kg	260 U	91 U	22 U	28 U	26 U	300 U	640 U	410 U	2600 U		240 U							
11	101	Sediment	SVOA	Hexachlorocyclopentadiene	ug/kg	55 U	19 U	5 U	6 U	5 U	300 U	640 U	410 U	1300 U		200 U							
11	101	Sediment	SVOA	Hexachloroethane	ug/kg	77 U	27 U	6 U	8 U	8 U	300 U	640 U	410 U	1300 U		220 U							
11	101	Sediment	SVOA	HPAH (total)	ug/kg	220 U	76 U	66	184	206	300 U												
11	101	Sediment	SVOA	**Indeno(1,2,3-cd) pyrene**	ug/kg	120 U	42 U	10 U	8 J	9 J	300 U	640 U	8 U	650 U	16	2 U	11.1	11.1 15.7	19 U	2.3 U*	0.95 J*	3.5*	31
11	101	Sediment	SVOA	Sum of **Bolded** PAHs *Superceded individual PAH criteria in 2007																0	4.38	13.2	
11	101	Sediment	SVOA	Isophorone	ug/kg	220 U	76 U	19 U	24 U	22 U	300 U	640 U	410 U	650 U		200 U							

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						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	101	Sediment	SVOA	LPAH (total)	ug/kg	100 U	34 U	8 U	39	92	300 U												
11	101	Sediment	SVOA	m,p-Cresols	ug/kg									6500 U									
11	101	Sediment	SVOA	Naphthalene	ug/kg	88 U	30 U	7 U	10 U	9 U	300 U	640 U	8 U	1300 U	110	8		15.7	19 U	2.3 U	0.84 J	2.1 U	9.4
11	101	Sediment	SVOA	NCPAH (total)	ug/kg	180 U	61 U	26	128	197	300 U												
11	101	Sediment	SVOA	Nitrobenzene	ug/kg	130 U	46 U	11 U	14 U	13 U	300 U	640 U	410 U	1300 U		200 U							
11	101	Sediment	SVOA	N-Nitrosodimethylamine	ug/kg						2000 U			909 U									
11	101	Sediment	SVOA	N-Nitrosodinpropylamine	ug/kg	330 U	110 U	28 U	36 U	32 U	300 U	640 U	410 U	909 U		200 U							
11	101	Sediment	SVOA	N-Nitrosodiphenylamine	ug/kg	100 U	34 U	8 U	11 U	10 U	300 U	640 U	410 U	650 U		310 U							
11	101	Sediment	SVOA	Pentachlorophenol	ug/kg	150 U	53 U	13 U	38	15 U	2000 U	1300 U	410 U	6500 U		200 U	134 U	134 U 78.7					
11	101	Sediment	SVOA	Phenanthrene	ug/kg	77 U	27 U	6 U	29	65	300 U	54 J	8 U	650 U	42	2 U	660 U	660 U	18 J	2.3 U	2.5 U	2.5 U	230
11	101	Sediment	SVOA	Phenol	ug/kg	130 U	46 U	11 U	14 U	13 U	300 U	51 J	410 U	1300 U		200 U	660 U	660 U 387					
11	101	Sediment	SVOA	Pyrene	ug/kg	180 U	61 U	14 J	44	53	300 U	68 J	19	650 U	48	86 J	660 U	660 U	8.6 J	2.3 U	2.5 U	6.2	210
11	101	Sediment	TIN	Aluminum	mg/kg	17400	14300	17800	17600	17700	10700	21900	17200	14300		19100							
11	101	Sediment	TIN	Antimony	mg/kg	2.4 UJ	3.9 UJ	4 UJ	5 J	4.9 UJ	10 U	1.3 J	0.14 U	0.296 U		1.43 UJ	0.5 UJ	0.5 UJ 0.565	0.054 UJ	0.11 UJ	0.70 J	0.118 J	0.103J
11	101	Sediment	TIN	Arsenic	mg/kg	2.7	8.6 J	1.9 J	2.2	2.7 J	3	5.8 J	2.7	3.99		3.64 J	4.3	4.3 2.64	8.2	2.3	4.2 J	6.09	5.48
11	101	Sediment	TIN	Barium	mg/kg	22.5 J	23.3 U	25.2 J	26.4 J	17.9 J	41	47.2	22.4	24		24.5							
11	101	Sediment	TIN	Beryllium	mg/kg	0.22 J	0.17 J	0.12 J	0.12 U	0.05 U	1 U	0.14 J	0.05 U	0.12		0.858 U	0.147 J	0.147 J 0.138	0.34 J	0.121	0.102 J		
11	101	Sediment	TIN	Cadmium	mg/kg	0.52 U	0.77 UJ	0.55 U	0.65 U	0.67 U	1 U	0.04 U	0.03 U	0.197 U		0.572 U	0.5 U	0.5 U 0.565	1.1 J	0.031	0.120 J		
11	101	Sediment	TIN	Calcium	mg/kg	7070	9240 J	8610	8250	9760 J	4770	11800	7880	6870		8400							
11	101	Sediment	TIN	Chromium	mg/kg	20 J	13.1 J	18.2	13 J	12.2	8	11.5	16.7	9.03		10.6	6.71	6.71 6.3	14.7	6.02	8.02 J	4.81	
11	101	Sediment	TIN	Cobalt	mg/kg	11	9 J	11.3	9.3 J	10.3 J	7	15.7	12.4	7.53		8.53							
11	101	Sediment	TIN	Copper	mg/kg	34.6 J	20.3 J	27.2 J	34.8	127 J	22	30.7	44.2	17.2		40.8 J	29.9	29.9 18.6	55.9	28.5 J	18.5 J		
11	101	Sediment	TIN	Iron	mg/kg	27100	33700	26800	24300	26700	26400	48400	30300	30700		34000							
11	101	Sediment	TIN	Lead	mg/kg	4.2 J	5.9 J	4.1 J	6	4.7	6	8.1 J	4.7	13.8		4.55	5.24	5.24 3.21	6.5	7.47 J	2.89 J		
11	101	Sediment	TIN	Magnesium	mg/kg	11800	12300	9480	8050	9520	5560	5180	10100	4600									
11	101	Sediment	TIN	Manganese	mg/kg	537	979	526	709	342	565	834	452	819		438							
11	101	Sediment	TIN	Mercury	mg/kg	0.04 U	0.04 UJ	0.05 UJ	0.06 U	0.05 UJ	0.2 U	0.08 U	0.03 U			0.047 U	0.0127 J	0.0103 J	0.0184 J	0.030	0.013 J		
11	101	Sediment	TIN	Nickel	mg/kg	18.8	11.8 J	12.5	15.3	13	10 U	9.2	18.2	7.3		13.4 J	9.13	9.13 6.18	12.6	3.62	8.48 J	5.30	4.99
11	101	Sediment	TIN	Potassium	mg/kg	191 U	353 U	395 U	307 U	345 U	400 U	423 J	773	228		360							
11	101	Sediment	TIN	Selenium	mg/kg	0.16 U	0.15 UJ	0.17 U	0.1 U	0.18 U	1 U	4.6 J	1.2	0.987 U		2.86 U	0.5 U	0.5 U 0.565	1.0 J	2.4 U	2.3 UJ		
11	101	Sediment	TIN	Silver	mg/kg	0.61 J	0.9 U	0.54 U	0.89 U	0.92 U	2 U	0.07 U	0.06 U	0.0987 U		0.572 U	0.5 U	0.5 U 0.565	0.14 J	0.036 J	0.06 UJ		
11	101	Sediment	TIN	Sodium	mg/kg	878 J	881 J	1230	1230	1160 J	480	1970	1200			1900							
11	101	Sediment	TIN	Thallium	mg/kg	0.2 UJ	0.13 J	0.19 UJ	0.14 U	0.22 UJ	1 U	0.49 U	0.66 J	0.102		0.715 U	0.5 U	0.5 U 0.565	0.34 J	0.120	0.050		
11	101	Sediment	TIN	Vanadium	mg/kg	64.1	76.3 J	77.5	65.1	63.3	56	147	81.8	90.7		74.5							
11	101	Sediment	TIN	Zinc	mg/kg	88.4 J	87.5	73.3	79.7	59.7 J	120	151	59.5	93.3		71.3	76.6	76.6 64.6	107	30.9 J	45.9 J		
11	102	Sediment	P/A	4,4-DDD	ug/kg	4.6 U	0.28 U	0.63	1.7 J	0.72 NJ		4.5 U	15 J	24 U	3.5 U								
11	102	Sediment	P/A	4,4-DDE	ug/kg	4.6 U	0.28 U	0.092 J	0.27 NJ	0.18 NJ		4.5 U	1 U	24 U	2.1 U								
11	102	Sediment	P/A	4,4-DDT	ug/kg	4.6 U	1.5 J	0.79 NJ	2.1 J	0.93 NJ		4.5 U	1 U	24 U	2.5 U								
11	102	Sediment	P/A	Aldrin	ug/kg	2.3 U	0.14 U	0.16 U	0.13 U	0.17 U		2.3 U	0.52 U	24 U	3.1 U								
11	102	Sediment	P/A	alpha-BHC	ug/kg	2.3 U	0.14 NJ	0.031 J	0.13 U	0.17 U		2.3 U	0.52 U	24 U	2.3 U								
11	102	Sediment	P/A	alpha-Chlordane	ug/kg	2.3 U	0.14 U	0.16 U	0.16 NJ	0.17 U		2.3 U	0.52 U	24 U	2.5 U								

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						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	102	Sediment	P/A	Aroclor 1016	ug/kg	46 U	0.55 U	3.2 U	2.6 U	3.4 U		45 U	10 U	47.9 U	10 U	14 U	40.8 U	40.8 U	47 U		7.2 U		10U
11	102	Sediment	P/A	Aroclor 1221	ug/kg	93 U	5.5 U	6.4 U	5.3 U	6.8 U		90 U	20 U	47.9 U	10 U	14 U	82.1 U	82.1 U	47 U		15 U		20U
11	102	Sediment	P/A	Aroclor 1232	ug/kg	46 U	2.8 U	3.2 U	2.6 U	3.4 U		45 U	10 U	47.9 U	10 U	14 U	40.8 U	40.8 U	47 U		7.2 U		10U
11	102	Sediment	P/A	Aroclor 1242	ug/kg	46 U	2.8 U	3.2 U	2.6 U	3.4 U		45 U	10 U	47.9 U	10 U	14 U	40.8 U	40.8 U	47 U		7.2 U		10U
11	102	Sediment	P/A	Aroclor 1248	ug/kg	46 U	2.8 U	3.2 U	2.6 U	3.4 U		45 U	10 U	47.9 U	10 U	14 U	40.8 U	40.8 U	47 U		7.2 U		10U
11	102	Sediment	P/A	Aroclor 1254	ug/kg	46 U	2.8 U	3.2 U	2.6 U	3.4 U		45 U	10 U	78.7	10 U	14 U	40.8 U	40.8 U	47 U		7.2 U		10U
11	102	Sediment	P/A	Aroclor 1260	ug/kg	46 U	31 NJ	110	20 NJ	17 J		45 U	41	98.6	10 U	14 U	33.6 J	33.6 J	300		1.5 J		150
11	102	Sediment	P/A	beta-BHC	ug/kg	2.3 U	0.14 U	0.16 U	0.13 U	0.17 U		2.3 U	0.52 U	24 U	0.75 J								
11	102	Sediment	P/A	Chlordane	ug/kg										2.5 U								
11	102	Sediment	P/A	Chlordane (total)	ug/kg	2.3 U	0.14 U	0.16 U	0.236	0.084													
11	102	Sediment	P/A	DDT (total)	ug/kg	4.6 U	1.5	1.512	4.07	1.83													
11	102	Sediment	P/A	delta-BHC	ug/kg	2.3 U	0.14 U	0.16 U	0.07 NJ	0.045 NJ		2.3 U	0.52 U	24 U	3.6 U								
11	102	Sediment	P/A	Dieldrin	ug/kg	4.6 U	0.28 U	0.48 NJ	0.26 U	0.46 NJ		4.5 U	1 U	24 U	2.3 U								
11	102	Sediment	P/A	Endosulfan (total)	ug/kg	4.6 U	0.14	3.6	0.47	0.34													
11	102	Sediment	P/A	Endosulfan I	ug/kg	2.3 U	0.14 U	0.16 U	0.13 U	0.17 U		2.3 U	0.52 U	24 U	1.9 U								
11	102	Sediment	P/A	Endosulfan II	ug/kg	4.6 U	0.14 J	3.6 NJ	0.47 NJ	0.34 NJ		4.5 U	1 U	24 U	3 U								
11	102	Sediment	P/A	Endosulfan sulfate	ug/kg	4.6 U	0.28 U	0.32 U	0.26 U	0.34 U		4.5 U	1 U	24 U	0.33 J								
11	102	Sediment	P/A	Endrin	ug/kg	4.6 UJ	0.53 J	1.8 NJ		0.43 NJ		4.5 U	1 U	24 U	5 U								
11	102	Sediment	P/A	Endrin Aldehyde	ug/kg	4.6 U	1.5 J	0.5 NJ	1.1 NJ	1 NJ		4.5 U	1 U	24 U	7.8 U								
11	102	Sediment	P/A	Endrin ketone	ug/kg	4.6 U	0.28 U	0.32 U	0.26 U	0.36 NJ		4.5 U	2.1 J	24 U	1.4 U								
11	102	Sediment	P/A	gamma-Chlordane	ug/kg	2.3 U	0.14 U	0.16 U	0.076 J	0.084 NJ		2.3 U	0.52 U	24 U	3.8 U								
11	102	Sediment	P/A	Heptachlor	ug/kg	2.3 U	0.29 J	0.069 J	0.13 U	0.17 U		2.3 U	0.52 U	24 U	8.9 U								
11	102	Sediment	P/A	Heptachlor epoxide	ug/kg	2.3 U	0.14 U	0.039 J	0.13 U	0.082 J		2.3 U	0.52 U	24 U	5 U								
11	102	Sediment	P/A	Lindane	ug/kg	2.3 U	0.14 U	0.16 U	0.13 U	0.17 U		2.3 U	0.52 U	24 U	5.9 U								
11	102	Sediment	P/A	Methoxychlor	ug/kg	23 U	1.4 U	0.32 U	0.26 U	0.34 U		23 U	5.2 U	24 U	11 U								
11	102	Sediment	P/A	PCB (Sum Detect + .5 NonDetec	ug/kg	93 U	31	110	20	17													
11	102	Sediment	P/A	Technical Chlordane	ug/kg					6.8 U													
11	102	Sediment	P/A	Toxaphene	ug/kg	230 U	14 U	16 U	13 U	17 U		230 U	52 U	1600 U	18 U								
11	102	Sediment	SVOA	1,2,4-Trichlorobenzene	ug/kg	78 U	24 U	6 U	44 U	57 U		460 U	510 U	1590 U		190 U							
11	102	Sediment	SVOA	1,2-Dichlorobenzene	ug/kg	91 U	28 U	8 U	52 U	66 U		460 U	510 U	1590 U		220 U							
11	102	Sediment	SVOA	1,2-Diphenylhydrazine	ug/kg							460 U											
11	102	Sediment	SVOA	1,3-Dichlorobenzene	ug/kg	91 U	28 U	8 U	52 U	66 U		460 U	510 U	1590 U		220 U							
11	102	Sediment	SVOA	1,4-Dichlorobenzene	ug/kg	78 U	24 U	6 U	44 U	57 U		460 U	510 U	1590 U									
11	102	Sediment	SVOA	2,2-oxybis(1-Chloropropane)	ug/kg	220 U	69 U	18 U	120 U	160 U		460 U	510 U	1590 U		240 U							
11	102	Sediment	SVOA	2,4,5-Trichlorophenol	ug/kg	130 U	40 U	11 U	74 U	95 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	2,4,6-Trichlorophenol	ug/kg	140 U	44 U	12 U	81 U	100 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	2,4-Dichlorophenol	ug/kg	130 U	40 U	11 U	74 U	95 U		460 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	2,4-Dimethylphenol	ug/kg	180 U	57 U	15 U	100 U	130 U		460 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	2,4-Dinitrophenol	ug/kg	220 UJ	69 U	18 U	120 UJ	160 U		910 U	1000 U	9570 U		1200 U							
11	102	Sediment	SVOA	2,4-Dinitrotoluene	ug/kg	220 U	69 U	18 U	120 U	160 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	2,6-Dinitrotoluene	ug/kg	190 U	61 U	16 U	110 U	140 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	2-Chloronaphthalene	ug/kg	100 U	32 U	9 U	59 U	76 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	2-Chlorophenol	ug/kg	100 U	32 U	9 U	59 U	76 U		460 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	2-Methylnaphthalene	ug/kg	210 U	65 U	17 U	120 U	150 U		460 U	14	1120 U	18 U	17 U		6.64	31 J	4.3	0.56 J	14	12
11	102	Sediment	SVOA	2-Methylphenol	ug/kg	210 U	65 U	17 U	120 U	150 U		460 U	510 U	1590 U		180 U	328 U	328 U 720					
11	102	Sediment	SVOA	2-Nitroaniline	ug/kg	180 U	57 U	15 U	100 UJ	130 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	2-Nitrophenol	ug/kg	130 U	40 U	11 U	74 U	95 U		460 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	3,3-Dichlorobenzidine	ug/kg	100 U	32 U	9 U	59 UJ	76 U		910 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	3-Nitroaniline	ug/kg	160 U	48 UJ	13 U	88 U	110 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	4,6-Dinitro-2-methylphenol	ug/kg	190 U	61 U	16 U	110 U	140 U		910 U	510 U	9570 U		180 U							
11	102	Sediment	SVOA	4-Bromophenyl-phenylether	ug/kg	130 U	40 U	11 U	74 U	95 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	4-Chloro-3-methylphenol	ug/kg	320 U	100 U	27 U	180 U	240 U		460 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	4-Chloroaniline	ug/kg	230 U	73 U	20 U	130 U	170 U		460 U	510 U	1590 U		290 U							
11	102	Sediment	SVOA	4-Chlorophenyl methylsulfone	ug/kg											180 U							
11	102	Sediment	SVOA	4-Chlorophenyl-phenylether	ug/kg	140 U	44 U	12 U	81 U	100 U		460 U	510 U	797 U		180 U							

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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	102	Sediment	SVOA	4-Methylphenol	ug/kg	260 U	81 U	22 U	150 U	190 U		460 U	510 U			180 U							
11	102	Sediment	SVOA	4-Nitroaniline	ug/kg	170 U	52 U	14 U	96 UJ	120 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	4-Nitrophenol	ug/kg	210 U	65 U	17 U	120 U	150 U		910 U	510 U	7970 U		180 U							
11	102	Sediment	SVOA	Acenaphthene	ug/kg	91 U	22 J	8 U	52 U	66 U		460 U	10 U	797 U	1.9 U	1.8 U	1620 U	1620 U 15.3	7.6 J	1.9 J	2.5 U	14	11
11	102	Sediment	SVOA	Acenaphthylene	ug/kg	100 U	32 U	9 U	59 U	76 U		460 U	10 U	797 U	2.2 U	2.1 U		10.7	19 U	3.6	2.5 U	10	9.1
11	102	Sediment	SVOA	Aniline	ug/kg							460 U		3190 U		180 U							
11	102	Sediment	SVOA	Anthracene	ug/kg	91 U	24 J	8 U	30 J	66 U		460 U	120 J	797 U	1.9 U	1.8 U	1620 U	1620 U 38.4	21 J	21	2.5 U	44	36
11	102	Sediment	SVOA	Azobenzene	ug/kg									797 U									
11	102	Sediment	SVOA	Benzidine	ug/kg							2300 U											
11	102	Sediment	SVOA	**Benzo(a) anthracene**	ug/kg	200	58	8 U	240	66 U		460 U	260 J	797 U	1.9 J	1.8 U	1620 U	1620 U 115	85 J	81*	0.41 J*	180*	160
11	102	Sediment	SVOA	**Benzo(a)pyrene**	ug/kg	110	23 J	8 U	250	33 J		460 U	190 J	797 U	3.2 U	3 U	63.8	63.8 105	88 J	98*	0.79 J*	180*	180
11	102	Sediment	SVOA	**Benzo(b) fluoranthene**	ug/kg	280	57	10 U	180	50 J		460 U	240 J	1120 U	1.9 J	1.8 U	1620 U	1620 U 121	110 J	130*	1.3 J*	250*	270
11	102	Sediment	SVOA	**Benzo(g,h,i) perylene**	ug/kg	62 J	16 J	15 U	62 J	130 U		460 U	120 J	1120 U	2.7	1.8 U	1620 U	1620 U 50.6	170 J	51*	2.4 J*	130*	160
11	102	Sediment	SVOA	**Benzo(k) fluoranthene**	ug/kg	96 J	16 J	9 U	200	76 U		460 U	10 U	797 U	1.9 U	1.8 U	1620 U	1620 U 87.5	35 J	42*	2.5 U*	82*	80
11	102	Sediment	SVOA	Benzofluoranthenes (total)	ug/kg	376	73	10 U	380	50													
11	102	Sediment	SVOA	Benzoic acid	ug/kg							36 J		7970 U		1400 U	4900 U	4900 U 2180					
11	102	Sediment	SVOA	Benzyl alcohol	ug/kg							460 U		1120 U		180 U							
11	102	Sediment	SVOA	bis(2-Chloroethoxy)methane	ug/kg	180 U	57 U	15 U	100 U	130 U		460 U	510 U	1120 U		210 U							
11	102	Sediment	SVOA	bis(2-Chloroethyl)ether	ug/kg	140 U	44 U	12 U	81 U	100 U		460 U	510 U	1590 U		220 U							
11	102	Sediment	SVOA	bis(2-Ethylhexyl)phthalate	ug/kg	270 J	130 U	36 U	28 J	320 U		37 J	150 J	797 U		180 U	9800 U	9800 U 33.5	33 U	11 J	6.1 J	41 J	1000U
11	102	Sediment	SVOA	Butylbenzylphthalate	ug/kg	220 U	69 U	18 U	120 U	160 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	Carbazole	ug/kg	100 U	52 J	9 U	31 J	76 U		460 U	510 U				1620 U	1620 U 720					
11	102	Sediment	SVOA	Chrysene	ug/kg	240	100	10 U	260	34 J		27 J	270 J	797 U	2.3	1.8 U	1620 U	1620 U 137	94 J	71	1.1 J	270	120
11	102	Sediment	SVOA	CPAH (total)	ug/kg	997	269	22 U	1240	117													
11	102	Sediment	SVOA	Dibenz(a,h)anthracene	ug/kg	260 U	81 U	22 U	150 U	190 U		460 U	10 U	1120 U	1.9 U	1.8 U		146	19 U	13	2.5 U	31	43
11	102	Sediment	SVOA	Dibenzofuran	ug/kg	100 U	17 J	9 U	59 U	76 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	Diethylphthalate	ug/kg	190 U	61 U	16 U	110 U	140 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	Dimethylphthalate	ug/kg	65 U	20 U	5 U	37 U	48 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	Di-n-butylphthalate	ug/kg	76 J	57 U	15 U	100 U	46 J		460 U	510 U	797 U		310	4900 U	4900 U 14.6					
11	102	Sediment	SVOA	Di-n-octylphthalate	ug/kg	430	61 U	16 UJ	110 UJ	140 U		460 U	510 U	797 U		180 U	1620 U	1620 U 146					
11	102	Sediment	SVOA	Fluoranthene	ug/kg	630	480	10	340	58 J		460 U	590	797 U	2.7	2.1 U	1620 U	1620 U 193	110 J	87	0.91 J	280 J	220
11	102	Sediment	SVOA	Fluorene	ug/kg	120 U	39	10 U	66 U	86 U		460 U	10 U	797 U	1.9 U	1.8 U	1620 U	1620 U 19.1	13 J	4.5	2.5 U	23	17
11	102	Sediment	SVOA	Hexachlorobenzene	ug/kg	260 U	81 U	22 U	150 U	190 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	Hexachlorobutadiene	ug/kg	310 U	97 U	26 U	180 U	230 U		460 U	510 U	3190 U		220 U							
11	102	Sediment	SVOA	Hexachlorocyclopentadiene	ug/kg	65 U	20 U	5 U	37 U	48 U		460 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	Hexachloroethane	ug/kg	91 U	28 U	8 U	52 U	66 U		460 U	510 U	1590 U		190 U							
11	102	Sediment	SVOA	HPAH (total)	ug/kg	2269	1055	10	1982	228													
11	102	Sediment	SVOA	**Indeno(1,2,3-cd) pyrene**	ug/kg	71 J	15 J	12 U	110	100 U		460 U	16	797 U	1.9 U	1.8 U	30.9	30.9 40.9	130 J	58*	0.98 J*	130*	170

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						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	102	Sediment	SVOA	Sum of **Bolded** PAHs *Superceded individual PAH criteria in 2007																11J	5.85	952	
11	102	Sediment	SVOA	Isophorone	ug/kg	260 U	81 U	22 U	150 U	190 U		460 U	510 U	797 U		180 U							
11	102	Sediment	SVOA	LPAH (total)	ug/kg	140	585	10 U	140	57													
11	102	Sediment	SVOA	m,p-Cresols	ug/kg									7970 U									
11	102	Sediment	SVOA	Naphthalene	ug/kg	100 U	32 U	9 U	59 U	76 U		460 U	110 J	1590 U	2.3	1.8 U		4.25	51 J	5.4	0.99 J	16	13
11	102	Sediment	SVOA	NCPAH (total)	ug/kg	1412	1371	10	882	168													
11	102	Sediment	SVOA	Nitrobenzene	ug/kg	160 U	48 U	13 U	88 U	110 U		460 U	510 U	1590 U		180 U							
11	102	Sediment	SVOA	N-Nitrosodimethylamine	ug/kg									1120 U									
11	102	Sediment	SVOA	N-Nitrosodinpropylamine	ug/kg	390 U	120 U	32 U	220 U	280 U		460 U	510 U	1120 U		180 U							
11	102	Sediment	SVOA	N-Nitrosodiphenylamine	ug/kg	120 U	36 U	10 U	66 U	86 U		460 U	510 U	797 U		280 U							
11	102	Sediment	SVOA	Pentachlorophenol	ug/kg	180 U	57 U	15 U	100 U	130 U		910 U	510 U	7970 U		180 U	328 UJ	328 UJ 73.1					
11	102	Sediment	SVOA	Phenanthrene	ug/kg	140	500	8 U	110	57 J		460 U	790	797 U	3	1.8 U	1620 U	1620 U 147	120 J	39	1.5 J	210	150
11	102	Sediment	SVOA	Phenol	ug/kg	160 U	48 U	13 U	88 U	110 U		460 U	510 U	1590 U		180 U	1620 U	1620 U 720					
11	102	Sediment	SVOA	Pyrene	ug/kg	580	290	17 U	340	53 J		460 U	560	797 U	2.3 U	2.2 U	1620 U	1620 U 206	190 J	70	1.4 J	330 J	210
11	102	Sediment	TIN	Aluminum	mg/kg	12700	16100	17900	15300	20800		10400	15800	15700		16900							
11	102	Sediment	TIN	Antimony	mg/kg	3.1 UJ	5.7 J	4.6 UJ	5.5 J	5.8 UJ		2.7 J	0.17 U	6.1		1.58	1.03 J	1.03 J 1.31	0.85 UJ	2.51 J	1.780 J	2.240 J	2.160J
11	102	Sediment	TIN	Arsenic	mg/kg	12.4	20.2 J	9.5 J	9.5	15.5 J		11.4 J	19.4	25.5		32.8	10.4	10.4 6.94	8.0	9.4	17.1 J	9.95	6.57
11	102	Sediment	TIN	Barium	mg/kg	76.5	73.8	30.5 J	104	102		64.3	77.2	88.6		75.6							
11	102	Sediment	TIN	Beryllium	mg/kg	0.23 J	0.22 J	0.14 J	0.19 U	0.26 U		0.09 J	0.06 U	0.144 U		0.799 U	0.27 J	0.27 J 0.532	0.24 J	0.199	0.184 J		
11	102	Sediment	TIN	Cadmium	mg/kg	1.4 J	2 J	0.72 J	1.8	3.3		0.26 J	5	0.646		2.21	2.59	2.59 1.99	3.6	2.090	1.610 J		
11	102	Sediment	TIN	Calcium	mg/kg	4120	6220 J	7770	887 J	163 J		4050	5910	7510		3600							
11	102	Sediment	TIN	Chromium	mg/kg	30 J	26.6 J	16.2	40.7 J	29.2		16	42.8	66.7		95.2	25	25 14.1	28.2	22.1	1.08 J	20.3	
11	102	Sediment	TIN	Cobalt	mg/kg	15.3	18.6	14.1	17.5	22		13.8	19.8	20.3		30.9							
11	102	Sediment	TIN	Copper	mg/kg	134 J	135 J	52.4 J	119	164 J		111	157	247		415	121	121 59.1	101	85.6 J	38.1 J		
11	102	Sediment	TIN	Iron	mg/kg	94400	92800	57700	100000	133000		105000	160000	193000		92000							
11	102	Sediment	TIN	Lead	mg/kg	121 J	87.5 J	139 J	200	275 J		60.9	287	377		132	208	208 136	253	183 J	42.6 J		
11	102	Sediment	TIN	Magnesium	mg/kg	9170	8680	7710	9260	12900		7180	5880	4560									
11	102	Sediment	TIN	Manganese	mg/kg	2350	2230	800	1610	2010		2430	2020	2880		2520							
11	102	Sediment	TIN	Mercury	mg/kg	0.06 U	0.04 UJ	0.06 UJ	0.06 U	0.06 UJ		0.05 U	0.05			0.044 U	0.295	0.108	0.235 J	0.077	0.007 J		
11	102	Sediment	TIN	Nickel	mg/kg	33.3	45.8 J	18.2	36.3	49.2		32.4	53.2	92.7		125	39	39 16.6	22.1	33.4	8.10 J	27.5	19.8
11	102	Sediment	TIN	Potassium	mg/kg	431 U	358 U	344 U	314 U	1060 U		365 J	676	286		580							
11	102	Sediment	TIN	Selenium	mg/kg	0.22 J	0.17 J	0.18 U	0.3 U	0.18 U		6.9 J	2.5	1.44 U		2.66 U	1.51	1.51 0.989	1.6	1.9 U	2.0 UJ		
11	102	Sediment	TIN	Silver	mg/kg	1.5 J	1.2 U	0.44 U	0.91 U	1.1 U		0.04 U	0.08 U	0.336		0.429 J	0.319 J	0.319 J 0.532	1.9	0.153 J	0.08 J		
11	102	Sediment	TIN	Sodium	mg/kg	393 J	759 J	1140 J	721 J	776 J		312 J	1060			510							
11	102	Sediment	TIN	Thallium	mg/kg	0.24 UJ	0.14 U	0.21 UJ	0.18 U	0.23 UJ		2.7 U	3.8 U	0.0616		0.666 U	1.23 U	1.23 U 0.532	0.14 UJ	0.078	0.075		
11	102	Sediment	TIN	Vanadium	mg/kg	33.1	60.2 J	98.1	48.7	59.9		36.6	50.9	67.9		41.8							
11	102	Sediment	TIN	Zinc	mg/kg	492 J	619	261	536	1280 J		506	1430	820		752	920	920 554	772	809 J	369 J		
11	103	Marine Sediment	P/A	4,4-DDD	ug/kg	4.6 U		0.28 U	0.22 U	0.33 U	10000 U	4 U	0.78 U	19 U	3.9 U								

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						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	103	Marine Sediment	P/A	4,4-DDE	ug/kg	4.6 U		0.28 U	0.11 U	0.16 U	10000 U	4 U	0.78 U	19 U	2.3 U								
11	103	Marine Sediment	P/A	4,4-DDT	ug/kg	4.6 U		0.14 NJ	0.22 U	0.33 U	10000 U	4 U	0.78 U	19 U	1.4 J								
11	103	Marine Sediment	P/A	Aldrin	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	3.5 U								
11	103	Marine Sediment	P/A	alpha-BHC	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	2.5 U								
11	103	Marine Sediment	P/A	alpha-Chlordane	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	2.7 U								
11	103	Marine Sediment	P/A	Aroclor 1016	ug/kg	46 U		2.8 U	2.2 U	3.3 U	100 U	40 U	7.8 U	38.4 U	13 U	32 U	16.6 U	16.6 U	21 U		6.9 U 6.5 U		6.3U
11	103	Marine Sediment	P/A	Aroclor 1221	ug/kg	92 U		5.7 U	4.5 U	6.5 U	100 U	80 U	16 U	38.4 U	13 U	32 U	33.5 U	33.5 U	21 U		14 U 13 U		13U
11	103	Marine Sediment	P/A	Aroclor 1232	ug/kg	46 U		2.8 U	2.2 U	3.3 U	100 U	40 U	7.8 U	38.4 U	13 U	32 U	16.6 U	16.6 U	21 U		6.9 U 6.5 U		6.3U
11	103	Marine Sediment	P/A	Aroclor 1242	ug/kg	46 U		2.8 U	2.2 U	3.3 U	100 U	40 U	7.8 U	38.4 U	13 U	32 U	16.6 U	16.6 U	21 U		6.9 U 6.5 U		6.3U
11	103	Marine Sediment	P/A	Aroclor 1248	ug/kg	46 U		2.8 U	2.2 U	3.3 U	100 U	40 U	7.8 U	38.4 U	13 U	32 U	16.6 U	16.6 U	21 U		6.9 U 6.5 U		6.3U
11	103	Marine Sediment	P/A	Aroclor 1254	ug/kg	46 U		2.8 U	2.2 U	3.3 U	100 U	40 U	7.8 U	38.4 U	13 U	32 U	16.6 U	16.6 U	21 U		6.9 U 6.5 U		6.3U
11	103	Marine Sediment	P/A	Aroclor 1260	ug/kg	46 U		2.8 U	2.2 U	3.3 U	100 U	40 U	32	38.4 U	13 U	32 U	16.6 U	16.6 U	21 U		6.9 U 6.5 U		6.3U
11	103	Marine Sediment	P/A	beta-BHC	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	0.97 J								
11	103	Marine Sediment	P/A	Chlordane	ug/kg										2.7 U								
11	103	Marine Sediment	P/A	Chlordane (total)	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2											
11	103	Marine Sediment	P/A	DDT (total)	ug/kg	4.6 U		0.14	0.22 U	0.33 U	10000 U	4											
11	103	Marine Sediment	P/A	delta-BHC	ug/kg	2.3 U		0.14 U	0.038 NJ	0.041 NJ	10000 U	2 U	0.4 U	19 U	8.2								
11	103	Marine Sediment	P/A	Dieldrin	ug/kg	4.6 U		0.28 U	0.22 U	0.33 U	10000 U	4 U	0.78 U	19 U	2.5 U								
11	103	Marine Sediment	P/A	Endosulfan (total)	ug/kg	4.6 U		0.28 U	0.22 U	0.33 U	10000 U	2											
11	103	Marine Sediment	P/A	Endosulfan I	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	2.1 U								
11	103	Marine Sediment	P/A	Endosulfan II	ug/kg	4.6 U		0.28 U	0.22 U	0.33 U	10000 U	4 U	0.78 U	19 U	3.4 U								
11	103	Marine Sediment	P/A	Endosulfan sulfate	ug/kg	4.6 U		0.28 U	0.22 U	0.33 U	10000 U	4 U	0.78 U	19 U	1.8 U								
11	103	Marine Sediment	P/A	Endrin	ug/kg	4.6 UJ		0.29 U	0.22 U	0.33 U	10000 U	4 U	0.78 U	19 U	5.6 U								
11	103	Marine Sediment	P/A	Endrin Aldehyde	ug/kg	4.6 U		0.28 U	0.22 U	0.33 U	10000 U	4 U	0.78 U	19 U	8.7 U								
11	103	Marine Sediment	P/A	Endrin ketone	ug/kg	4.6 U		0.096 NJ	0.22 U	0.33 U	10000 U	4 U	1.5 J	19 U	1.5 U								
11	103	Marine Sediment	P/A	gamma-Chlordane	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	4.3 U								
11	103	Marine Sediment	P/A	Heptachlor	ug/kg	2.3 U		0.031 J	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	10 U								
11	103	Marine Sediment	P/A	Heptachlor epoxide	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	5.6 U								
11	103	Marine Sediment	P/A	Lindane	ug/kg	2.3 U		0.14 U	0.11 U	0.16 U	10000 U	2 U	0.4 U	19 U	6.6 U								
11	103	Marine Sediment	P/A	Methoxychlor	ug/kg	23 U		0.17 NJ	0.22 U	0.33 U	20000 U	20 U	4 U	19 U	12 U								
11	103	Marine Sediment	P/A	PCB (Sum Detect + .5 NonDetec	ug/kg	92 U		5.7 U	4.5 U	6.5 U	100 U	40											
11	103	Marine Sediment	P/A	Technical Chlordane	ug/kg					6.5 U													
11	103	Marine Sediment	P/A	Toxaphene	ug/kg	230 U		14 U	11 U	16 U	300000 U	200 U	40 U	1300 U	20 U								
11	103	Marine Sediment	SVOA	1,2,4-Trichlorobenzene	ug/kg	84 U		6 U	7 U	7 U	300 U	400 U	390 U	1310 U		230 U							
11	103	Marine Sediment	SVOA	1,2-Dichlorobenzene	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	390 U	1310 U		260 U							
11	103	Marine Sediment	SVOA	1,2-Diphenylhydrazine	ug/kg							400 U											
11	103	Marine Sediment	SVOA	1,3-Dichlorobenzene	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	390 U	1310 U		260 U							
11	103	Marine Sediment	SVOA	1,4-Dichlorobenzene	ug/kg	84 U		6 U	7 U	7 U	300 U	400 U	390 U	1310 U									
11	103	Marine Sediment	SVOA	2,2-oxybis(1-Chloropropane)	ug/kg	240 U		16 U	18 U	19 U	300 U	400 U	390 U	1310 U		280 U							
11	103	Marine Sediment	SVOA	2,4,5-Trichlorophenol	ug/kg	140 U		9 U	11 U	11 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	2,4,6-Trichlorophenol	ug/kg	150 U		10 U	12 U	12 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	2,4-Dichlorophenol	ug/kg	140 U		9 U	11 U	11 U	300 U	400 U	390 U	1310 U		210 U							
11	103	Marine Sediment	SVOA	2,4-Dimethylphenol	ug/kg	200 U		13 U	15 U	16 U	300 U	400 U	390 U	1310 U		210 U							
11	103	Marine Sediment	SVOA	2,4-Dinitrophenol	ug/kg	240 UJ		16 U	18 UJ	19 U	2000 U	800 U	780 U	7840 U		1400 U							
11	103	Marine Sediment	SVOA	2,4-Dinitrotoluene	ug/kg	240 U		16 U	18 U	19 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	2,6-Dinitrotoluene	ug/kg	210 U		14 U	16 U	17 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	2-Chloronaphthalene	ug/kg	110 U		8 U	9 U	9 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	2-Chlorophenol	ug/kg	110 U		8 U	9 U	9 U	300 U	400 U	390 U	1310 U		210 U							

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Sediment
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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	103	Marine Sediment	SVOA	2-Methylnaphthalene	ug/kg	220 U		15 U	17 U	18 U	300 U	400 U	8 U	915 U	20 U	21 U		15.7	8.3 U	0.51 J 2.7 U	2.5 U 2.5 U	1.5 U 1.6 U	0.65J
11	103	Marine Sediment	SVOA	2-Methylphenol	ug/kg	220 U		15 U	6 J	18 U	300 U	400 U	390 U	1310 U		210 U	134 U	134 U 387					
11	103	Marine Sediment	SVOA	2-Nitroaniline	ug/kg	200 U		13 U	15 UJ	16 U	2000 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	2-Nitrophenol	ug/kg	140 U		9 U	11 U	11 U	300 U	400 U	390 U	1310 U		210 U							
11	103	Marine Sediment	SVOA	3,3-Dichlorobenzidine	ug/kg	110 U		8 U	9 UJ	9 U	2000 U	800 U	390 U	1310 U		210 U							
11	103	Marine Sediment	SVOA	3-Nitroaniline	ug/kg	170 U		11 U	13 U	14 U	2000 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	4,6-Dinitro-2-methylphenol	ug/kg	210 U		14 U	16 U	17 U	2000 U	800 U	390 U	7840 U		210 U							
11	103	Marine Sediment	SVOA	4-Bromophenyl-phenylether	ug/kg	140 U		9 U	11 U	11 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	4-Chloro-3-methylphenol	ug/kg	350 U		23 U	27 U	29 U	300 U	400 U	390 U	1310 U		210 U							
11	103	Marine Sediment	SVOA	4-Chloroaniline	ug/kg	250 U		17 U	20 U	21 U	300 U	400 U	390 U	1310 U		340 U							
11	103	Marine Sediment	SVOA	4-Chlorophenyl methylsulfone	ug/kg											210 U							
11	103	Marine Sediment	SVOA	4-Chlorophenyl-phenylether	ug/kg	150 U		10 U	12 U	12 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	4-Methylphenol	ug/kg	280 U		19 U	22 U	23 U	300 U	400 U	390 U			210 U							
11	103	Marine Sediment	SVOA	4-Nitroaniline	ug/kg	180 U		12 U	14 UJ	15 U	2000 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	4-Nitrophenol	ug/kg	220 U		15 U	17 U	18 U	2000 U	800 U	390 U	6530 U		210 U							
11	103	Marine Sediment	SVOA	Acenaphthene	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	8 U	653 U	2.2 U	2.2 U	660 U	660 U 15.7	8.3 U	2.6 U 2.7 U	2.5 U 2.5 U	1.5 U 1.6 U	0.83J
11	103	Marine Sediment	SVOA	Acenaphthylene	ug/kg	110 U		8 U	9 U	9 U	300 U	400 U	8 U	653 U	2.4 U	2.4 U		15.7	8.3 U	2.6 U 2.7 U	2.5 U 2.5 U	1.5 U 1.6 U	1.6U
11	103	Marine Sediment	SVOA	Aniline	ug/kg						1000 U	400 U		2610 U		210 U							
11	103	Marine Sediment	SVOA	Anthracene	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	8 U	653 U	2.2 U	2.2 U	660 U	660 U 15.7	8.3 U	2.6 U 2.7 U	2.5 U 2.5 U	1.5 U 1.6 U	1.6U
11	103	Marine Sediment	SVOA	Azobenzene	ug/kg									653 U									
11	103	Marine Sediment	SVOA	Benzidine	ug/kg							2000 U											
11	103	Marine Sediment	SVOA	**Benzo(a)anthracene**	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	21	653 U	2.2 J	12	660 U	660 U 15.7	8.3 U	0.45 J 2.5 J*	0.59 J 2.5 U*	1.5 U 1.6 U*	1.0J
11	103	Marine Sediment	SVOA	**Benzo(a)pyrene**	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	16	653 U	3.6 U	12	19.9	19.9 15.7	8.3 U	2.6 U 1.7 J*	2.5 U 2.5 U*	1.5 U 1.6 U*	1.1J
11	103	Marine Sediment	SVOA	**Benzo(b)fluoranthene**	ug/kg	130 U		8 U	10 U	10 U	300 U	400 U	38	915 U	6.5	2.2 U	660 U	660 U 15.7	8.3 U	2.6 U 2.8*	2.5 U 2.5 U*	1.5 U 1.6 U*	2.9
11	103	Marine Sediment	SVOA	**Benzo(g,h,i)perylene**	ug/kg	200 U		13 U	15 U	16 U	300 U	400 U	8 U	915 U	7.8	2.2 U	660 U	660 U 15.7	8.3 U	2.6 U 0.72 J*	2.5 U 2.5 U*	1.5 U 1.6 U*	1.4J
11	103	Marine Sediment	SVOA	**Benzo(k)fluoranthene**	ug/kg	110 U		8 U	9 U	9 U	300 U	400 U	8 U	653 U	2.6	2.2 U	660 U	660 U 15.7	8.3 U	2.6 U 0.84 J*	2.5 U 2.5 U*	1.5 U 1.6 U*	0.91J
11	103	Marine Sediment	SVOA	Benzofluoranthenes (total)	ug/kg	130 U		8 U	10 U	10 U	300 U	400											
11	103	Marine Sediment	SVOA	Benzoic acid	ug/kg						2000 U	2000 U		6530 U		1700 U	2000 U	2000 U 1170					
11	103	Marine Sediment	SVOA	Benzyl alcohol	ug/kg						300 U	400 U		915 U		210 U							
11	103	Marine Sediment	SVOA	bis(2-Chloroethoxy)methane	ug/kg	200 U		13 U	15 U	16 U	300 U	400 U	390 U	915 U		240 U							
11	103	Marine Sediment	SVOA	bis(2-Chloroethyl)ether	ug/kg	150 U		10 U	12 U	12 U	300 U	400 U	390 U	1310 U		260 U							
11	103	Marine Sediment	SVOA	bis(2-Ethylhexyl)phthalate	ug/kg	82 J		31 U	13 J	11 U	300 U	400 U	390 U	653 U		210 U	4000 U	4000 U 15.7	15 U	7.6 J 3.5 J	34 J 5.4 J	57 U 61 U	62U
11	103	Marine Sediment	SVOA	Butylbenzylphthalate	ug/kg	240 U		16 U	18 U	19 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	Carbazole	ug/kg	110 U		8 U	9 U	9 U		400 U	390 U				660 U	660 U 387					
11	103	Marine Sediment	SVOA	Chrysene	ug/kg	130 U		8 U	10 U	10 U	300 U	400 U	20	653 U	4.4	20	660 U	660 U 15.7	8.3 U	2.6 U 1.0 J	0.50 J 2.5 U	1.5 U 1.6 U	2.8
11	103	Marine Sediment	SVOA	CPAH (total)	ug/kg	280 U		19 U	22 U	23 U	300 U	400											
11	103	Marine Sediment	SVOA	Dibenz(a,h)anthracene	ug/kg	280 U		19 U	22 U	23 U	300 U	400 U	8 U	915 U	3	2.2 U		15.7	8.3 U	2.6 U 2.7 U	2.5 U 2.5 U	1.5 U 1.6 U	1.6U
11	103	Marine Sediment	SVOA	Dibenzofuran	ug/kg	110 U		8 U	9 U	9 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	Diethylphthalate	ug/kg	210 U		14 U	16 U	17 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	Dimethylphthalate	ug/kg	70 U		5 U	6 U	6 U	300 U	400 U	390 U	653 U		210 U							

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						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	103	Marine Sediment	SVOA	Di-n-butylphthalate	ug/kg	200 U		13 U	15 U	16 U	300 U	400 U	79 J	653 U		220	2000 U	2000 U 15.7					
11	103	Marine Sediment	SVOA	Di-n-octylphthalate	ug/kg	87 J		14 U	16 UJ	17 U	300 U	400 U	390 U	653 U		210 U	660 U	660 U 15.7					
11	103	Marine Sediment	SVOA	Fluoranthene	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	29	653 U	12	99 J	660 U	660 U 15.7	8.3 U	0.63 J 2.2 J	1.3 J 2.5 U	1.5 U 1.6 U	10
11	103	Marine Sediment	SVOA	Fluorene	ug/kg	130 U		8 U	10 U	10 U	300 U	400 U	8 U	653 U	2.2 U	2.2 U	660 U	660 U 15.7	8.3 U	2.6 U 0.27 J	2.5 U 2.5 U	1.5 U 1.6 U	0.96J
11	103	Marine Sediment	SVOA	Hexachlorobenzene	ug/kg	280 U		19 U	22 U	23 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	Hexachlorobutadiene	ug/kg	340 U		22 U	26 U	27 U	300 U	400 U	390 U	2610 U		260 U							
11	103	Marine Sediment	SVOA	Hexachlorocyclopentadiene	ug/kg	70 U		5 U	6 U	6 U	300 U	400 U	390 U	1310 U		210 U							
11	103	Marine Sediment	SVOA	Hexachloroethane	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	390 U	1310 U		230 U							
11	103	Marine Sediment	SVOA	HPAH (total)	ug/kg	280 U		19 U	22 U	23 U	300 U	400											
11	103	Marine Sediment	SVOA	**Indeno(1,2,3-cd)pyrene**	ug/kg	150 U		10 U	12 U	12 U	300 U	400 U	8 U	653 U	3.9	2.2 U	7.66	7.66 15.7	8.3 U	2.6 U 0.80 J*	2.5 U 2.5 U*	1.5 U 1.6 U*	1.7
11	103	Sediment	SVOA	Sum of **Bolded** PAHs *Superceded individual PAH criteria in 2007																7.6J 3.5J	0.59 0	0 0	
11	103	Marine Sediment	SVOA	Isophorone	ug/kg	280 U		19 U	22 U	23 U	300 U	400 U	390 U	653 U		210 U							
11	103	Marine Sediment	SVOA	LPAH (total)	ug/kg	130 U		8 U	10 U	10 U	300 U	400											
11	103	Marine Sediment	SVOA	m,p-Cresols	ug/kg									6530 U									
11	103	Marine Sediment	SVOA	Naphthalene	ug/kg	110 U		8 U	9 U	9 U	300 U	400 U	8 U	1310 U	5.1	3.4		15.7	8.3 U	2.6 U 2.7 U	0.70 J 0.49 J	1.5 U 1.6 U	0.77J
11	103	Marine Sediment	SVOA	NCPAH (total)	ug/kg	220 U		15 U	17 U	18 U	300 U	400											
11	103	Marine Sediment	SVOA	Nitrobenzene	ug/kg	170 U		11 U	13 U	14 U	300 U	400 U	390 U	1310 U		210 U							
11	103	Marine Sediment	SVOA	N-Nitrosodimethylamine	ug/kg						2000 U			915 U									
11	103	Marine Sediment	SVOA	N-Nitrosodinpropylamine	ug/kg	420 U		28 U	33 U	34 U	300 U	400 U	390 U	915 U		210 U							
11	103	Marine Sediment	SVOA	N-Nitrosodiphenylamine	ug/kg	130 U		8 U	10 U	10 U	300 U	400 U	390 U	653 U		330 U							
11	103	Marine Sediment	SVOA	Pentachlorophenol	ug/kg	200 U		13 U	7 J	16 U	2000 U	800 U	390 U	6530 U		210 U	134 U	134 U 78.6					
11	103	Marine Sediment	SVOA	Phenanthrene	ug/kg	98 U		7 U	8 U	8 U	300 U	400 U	11	653 U	3.8	54 J	660 U	660 U 15.7	8.3 U	0.46 J 1.5 J	0.37 J 2.5 U	1.5 U 1.6 U	12
11	103	Marine Sediment	SVOA	Phenol	ug/kg	170 U		11 U	13 U	14 U	300 U	400 U	390 U	1310 U		210 U	660 U	660 U 387					
11	103	Marine Sediment	SVOA	Pyrene	ug/kg	220 U		15 U	17 U	18 U	300 U	400 U	30	653 U	7.2	48 J	660 U	660 U 15.7	8.3 U	2.6 U 1.7 J	1.0 J 2.5 U	1.5 U 1.6 U	8.3
11	103	Marine Sediment	TIN	Aluminum	mg/kg	19900		24800	17200	22000	12600	20700	15700	19000	14700	25700							
11	103	Marine Sediment	TIN	Antimony	mg/kg	3.5 J		3.7 J	3.6 UJ	4.5 UJ	10 U	0.54 J	0.13 U	0.36 U	0.479	1.51 U	0.5 UJ	0.5 UJ 0.595	0.025 UJ	0.05 J 0.04 J	0.09 UJ 0.10 UJ	0.029 J 0.031 J	0.099J
11	103	Marine Sediment	TIN	Arsenic	mg/kg	4.1		4.3 J	4.5	4.9 J	3	4 J	4.2	3.87	9.89	5.74	3.83	3.83 4.16	7.6 J	2.8 2.3	3.7 J 3.3 J	4.65 5.07	3.09
11	103	Marine Sediment	TIN	Barium	mg/kg	13.5 J		16.2 J	16.8 J	16.8 J	8	14.8 J	38	10.9	103	11.8							
11	103	Marine Sediment	TIN	Beryllium	mg/kg	0.2 J		0.13 J	0.15 U	0.04 U	1 U	0.08 J	0.09 J	0.12 U	0.251	0.908 U	0.189 J	0.189 J 0.142	0.31 J	0.097 0.099	0.100 0.098		
11	103	Marine Sediment	TIN	Cadmium	mg/kg	0.58 U		0.44 U	0.92	0.61 U	1 U	0.02 U	0.81	0.24 U	2.67	0.605 U	0.5 U	0.5 U 0.595	0.39 J	0.060 0.062	0.019 J 0.018 J		
11	103	Marine Sediment	TIN	Calcium	mg/kg	18300		16300	21600	14400 J	8850	14500	15700	11500	5670	9800							
11	103	Marine Sediment	TIN	Chromium	mg/kg	3 J		5	8.8 J	3	3	5.7	4.5	4.42	25.7	6.18	6.41	6.41 13.5	10.1	4.23 4.11	2.07 J 2.39 J	3.39 11.7	
11	103	Marine Sediment	TIN	Cobalt	mg/kg	4.1 J		5.9 J	8 J	4.2 U	4	7.4	10.6	4.44	14.6	9.36							
11	103	Marine Sediment	TIN	Copper	mg/kg	14.1 J		13.5 J	37.4	12.6 J	9	12.2	72	11.3	82	29.5	19.5	19.5 23	26.6	10.5 J 10.6 J	8.03 J 8.83 J		
11	103	Marine Sediment	TIN	Iron	mg/kg	12800		19500	20800	14900	9600	20700	26300	17000	117000	26000							
11	103	Marine Sediment	TIN	Lead	mg/kg	2.1 J		1.9 J	6	2.3	2	1.1 J	139	1.64	210	4	6.79	6.79 3.23	8.7	2.58 J 2.63 J	1.70 J 1.76 J		
11	103	Marine Sediment	TIN	Magnesium	mg/kg	4220		4350	9520	4380	3560	3980	10000	3680	9390								

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						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
11	103	Marine Sediment	TIN	Manganese	mg/kg	216		258	524	208	148	241	986	227	2100	489							
11	103	Marine Sediment	TIN	Mercury	mg/kg	0.05 U		0.06 UJ	0.04 U	0.05 UJ	0.2 U	0.05 U	0.04 U		0.0249	0.056 U	0.00738 J	0.0031 J	0.00677 UJ	0.008 J 0.008 J	0.006 J 0.007 J		
11	103	Marine Sediment	TIN	Nickel	mg/kg	3.4 J		4.5 J	9.3	2.5 J	10 U	4.5	10.5	3.67	35.7	6.36	15.5	15.5 20.4	10.5 J	4.09 4.07	2.52 J 3.43 J	4.69 12.7	3.74
11	103	Marine Sediment	TIN	Potassium	mg/kg	466 U		498 U	493 U	391 U	470	535	611	408	1070	610							
11	103	Marine Sediment	TIN	Selenium	mg/kg	0.16 U		0.16 U	0.08 UJ	0.16 U	1 U	1.3 J	0.72 J	1.2 U	0.454 J	3.03 U	0.5 U	0.5 U 0.595	0.13 J	2.2 U 2.2 U	2.3 UJ 2.1 UJ		
11	103	Marine Sediment	TIN	Silver	mg/kg	0.5 U		0.31 U	0.68 U	0.84 U	2 U	0.03 U	0.06 U	0.12 U	1.38	0.349 J	0.5 U	0.5 U 0.595	0.065 J	0.010 J 0.012 J	0.06 UJ 0.07 UJ		
11	103	Marine Sediment	TIN	Sodium	mg/kg	2780		4090	2240	2400	2600	2870	930		693	2700							
11	103	Marine Sediment	TIN	Thallium	mg/kg	0.2 UJ		0.18 UJ	0.11 U	0.2 UJ	1 U	1 J	2.9 U	0.024 U	0.084 J	0.757 U	0.5 U	0.5 U 0.595	0.052 J	0.037 0.037	0.020 0.018 J		
11	103	Marine Sediment	TIN	Vanadium	mg/kg	39.2		70.1	58.3	46.2	31	81.1	40.1	63.4	38.6	71							
11	103	Marine Sediment	TIN	Zinc	mg/kg	30.2 J		28.6	57	24 J	19	28	307	25.7	583	57.8 J	92.8	92.8 49	74.8 J	24.5 J 25.8 J	15.1 J 15.7 J		

Notes:
Blank cells in the concentration columns indicate that a sample was not collected from that location or the sample was not analyzed for that chemical.
J - estimated value
mg/kg - milligrams per kilogram
NJ - spiked sample recorvery is estimated and is not within control limits.
U - not detected, value shown is the reporting limit
ug/kg - micrograms per kilogram
UJ - Estimated reporting limit

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	101	Surface Water	DIN	Aluminum	ug/l	34.5 J	36.6 J	22.4 J	213	174	27 U	43 U	116 J	5.32	17.1	2.79				
11	101	Surface Water	DIN	Antimony	ug/l	0.4 U	0.1 U	0.14 U	1.8 J	0.19 U	0.1 J	0.087 U	1.6 J	0.5 U	0.119	0.274 J	1 UJ	1 UJ 1	0.39 UJ	0.090 U 0.090 U
11	101	Surface Water	DIN	Arsenic	ug/l	0.7 U	0.7 U	0.9 U	1.3 U	1.3 U	0.76 J	0.49 J	2.9 U	2 U	0.378	0.295 J	1 U	1 U 1	0.10 U	0.53 0.61
11	101	Surface Water	DIN	Barium	ug/l	8.1 J	8 J	8.2 J	5.4 J	7.3 J	8.4 J	7.8 J	10.4 J	7.25	7.38	7.87				
11	101	Surface Water	DIN	Beryllium	ug/l	0.2 U	0.2 U	0.3 U	0.34 J	0.2 U	0.33 U	0.28 U	0.6 U	0.5 U	0.15 U	0.15 U	1 U	1 U 1	0.043 U	0.020 U 0.020 U
11	101	Surface Water	DIN	Cadmium	ug/l	0.1 U	0.2 U	0.1 U	0.22 J	0.1 U	0.047 U	0.32 J	0.3 U	2 U	0.2 U	0.2 U	1 U	1 U 0.1	0.094 U	0.023 U 0.020 U
11	101	Surface Water	DIN	Calcium	ug/l	17700	21200	17900	8250	14800	21200	22200	15700	21800	14800	24000				
11	101	Surface Water	DIN	Chromium	ug/l	0.3 U	0.43 J	0.37 U	0.41 U	0.34 J	6.4 U	13.4	0.4 U	2.63	1.91	1.07 J	1 U	1 U 1	0.12 U	0.20 U 0.20 U
11	101	Surface Water	DIN	Cobalt	ug/l	0.1 U	0.1 U	0.37 J	0.1 J	0.15 J	2.9 U	0.12 J	0.5 U	0.4 U	0.5 U	3.32				
11	101	Surface Water	DIN	Copper	ug/l	1 U	6.2 J	3.9 U	5.9 U	5.9 U	3.3 J	2.2 J	1.1 U	3 U	0.772	1.06 J	1.69 J	1.69 J 2	0.67 J	0.40 0.30
11	101	Surface Water	DIN	Iron	ug/l	219	258	135	202	242	136	211	87.6 J	1000 U	59.9	890				
11	101	Surface Water	DIN	Lead	ug/l	0.18 U	0.33 U	0.16 U	2.8	2	0.019 U	0.097 J	1.6 U	0.3 U	0.1 U	0.101 J	1 U	1 U 1	0.075 U	0.030 U 0.030 U
11	101	Surface Water	DIN	Magnesium	ug/l	4650	5410	4810	2950	3990	5240	5680	5680	5330	4950	6200				
11	101	Surface Water	DIN	Manganese	ug/l	15.3	31.8	17.6	12.3	16.4 J	38	46	19.3	57.9	23.5	20.9				
11	101	Surface Water	DIN	Mercury	ug/l	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ	0.1 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U 0.2	0.018 UJ	0.20 U 0.20 U
11	101	Surface Water	DIN	Nickel	ug/l	0.45 J	0.53 U	11.5 U	12.5 J	9.3 U	192	11.3 J	0.7 U	1 U	0.841	1.01 J	1 J	1 J 2	50 UJ	0.70 U 0.63 U
11	101	Surface Water	DIN	Potassium	ug/l	772	976	959	1350	1230	1190	1180	1660 J	1120	1890	1200				
11	101	Surface Water	DIN	Selenium	ug/l	0.8 U	0.7 U	0.8 U	0.8 U	0.8 U	1.1 J	2.4 J	1.9 J	2.5 U	1.07	0.517	1.2 J	1.2 J 2	0.41 J	1.2 U 1.2 U
11	101	Surface Water	DIN	Silver	ug/l	2.5 U	3.3 U	1.8 U	4.1 U	4.1 U	3 U	0.5 U	0.7 U	1 U	0.1 U	0.1 UJ	0.06 UJ	0.06 UJ 1	0.085 UJ	0.030 U 0.030 U
11	101	Surface Water	DIN	Sodium	ug/l	17800	16800	17000	15200	16100	17400	18200	20000		11900	18000				
11	101	Surface Water	DIN	Thallium	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.008 U	0.012 U	3.5 U	0.5 U	0.175	0.0661	0.06 UJ	0.06 UJ 1	0.044 U	0.020 U 0.020 U
11	101	Surface Water	DIN	Vanadium	ug/l	0.3 U	0.33 J	0.17 J	0.41 J	0.41 J	2 U	0.3 J	0.3 U	10 U	5 U	5 U				
11	101	Surface Water	DIN	Zinc	ug/l	5.7 U	4.9 J	6.7 U	11.4 J	10.6 J	12.4 J	15.2	15 J	10 U	8.78	2.7	4.18 J	4.18 J 3.07	4.0 J	2.07 1.77
11	101	Surface Water	P/A	4,4-DDD	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	4,4-DDE	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	4,4-DDT	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	Aldrin	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	alpha-BHC	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	alpha-Chlordane	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.1 U	0.202 U	0.2 U	0.2 U	0.1 U		0.54 UJ	0.5 U			
11	101	Surface Water	P/A	Aroclor 1221	ug/l	0.4 U	2 U	0.4 U	0.4 U	0.2 U	0.404 U	0.4 U	0.39 U	0.1 U		0.54 UJ	1 U			
11	101	Surface Water	P/A	Aroclor 1232	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.202 U	0.2 U	0.2 U	0.1 U		0.54 UJ	0.5 U			
11	101	Surface Water	P/A	Aroclor 1242	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.202 U	0.2 U	0.2 U	0.1 U		0.54 U	0.5 U			
11	101	Surface Water	P/A	Aroclor 1248	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.202 U	0.2 U	0.2 U	0.1 U		0.54 UJ	0.5 U			
11	101	Surface Water	P/A	Aroclor 1254	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.202 U	0.2 U	0.2 U	0.1 U		0.54 UJ	0.5 U			

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	101	Surface Water	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.1 U	0.202 U	0.2 U	0.2 U	0.1 U		0.54 UJ	0.5 U			
11	101	Surface Water	P/A	beta-BHC	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Chlordane (total)	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01								
11	101	Surface Water	P/A	DDT (total)	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02								
11	101	Surface Water	P/A	delta-BHC	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Dieldrin	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	Endosulfan (total)	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.01								
11	101	Surface Water	P/A	Endosulfan I	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Endosulfan II	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	Endosulfan sulfate	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	Endrin	ug/l	0.02 UJ	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	Endrin Aldehyde	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	Endrin ketone	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.0202 U	0.02 U	0.02 U	0.03 U						
11	101	Surface Water	P/A	gamma-Chlordane	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Heptachlor	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Heptachlor epoxide	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Lindane	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.0101 U	0.01 U	0.0098 U	0.03 U						
11	101	Surface Water	P/A	Methoxychlor	ug/l	0.1 U	0.5 U	0.02 U	0.02 U	0.01 U	0.101 U	0.1 U	0.098 U	0.03 U						
11	101	Surface Water	P/A	PCB (Sum Detect + .5 NonDetec	ug/l	0.4 U	2 U	0.4 U	0.4 U	0.2 U	0.404 U	0.2								
11	101	Surface Water	P/A	Technical Chlordane	ug/l					0.2 U										
11	101	Surface Water	P/A	Toxaphene	ug/l	1 U	5 U	1 U	1 U	0.5 U	1.01 U	1 U	0.98 U	2.5 U						
11	101	Surface Water	SVOA	1,2,4-Trichlorobenzene	ug/l	5 U	5 U	5 U	5 U	5 U			5 U	25 U						
11	101	Surface Water	SVOA	1,2-Dichlorobenzene	ug/l								5 U	20 U						
11	101	Surface Water	SVOA	1,3-Dichlorobenzene	ug/l								5 U	20 U						
11	101	Surface Water	SVOA	1,4-Dichlorobenzene	ug/l								5 U	20 U						
11	101	Surface Water	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2,4,5-Trichlorophenol	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	101	Surface Water	SVOA	2,4,6-Trichlorophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2,4-Dichlorophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2,4-Dimethylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2,4-Dinitrophenol	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	10 U	180 U						
11	101	Surface Water	SVOA	2,4-Dinitrotoluene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2,6-Dinitrotoluene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2-Chloronaphthalene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U						
11	101	Surface Water	SVOA	2-Chlorophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2-Methylnaphthalene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	0.052 U					
11	101	Surface Water	SVOA	2-Methylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	2-Nitroaniline	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	101	Surface Water	SVOA	2-Nitrophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	3,3-Dichlorobenzidine	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	3-Nitroaniline	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	101	Surface Water	SVOA	4,6-Dinitro-2-methylphenol	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	5 U	180 U						
11	101	Surface Water	SVOA	4-Bromophenyl-phenylether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	4-Chloro-3-methylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	4-Chloroaniline	ug/l	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	4-Chlorophenyl-phenylether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	4-Methylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U							
11	101	Surface Water	SVOA	4-Nitroaniline	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	101	Surface Water	SVOA	4-Nitrophenol	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	5 U	140 U						
11	101	Surface Water	SVOA	Acenaphthene	ug/l	0.0016 U	0.0067 U	0.0067 U	0.0067 UJ	0.0067 U	0.98 U	1 U	0.97 U	25 U	0.052 U					
11	101	Surface Water	SVOA	Acenaphthylene	ug/l	5 U	5 U	5 U	5 U	5 U	0.98 U	2 U	1.9 U	20 U	0.052 U					
11	101	Surface Water	SVOA	Aniline	ug/l									20 U						
11	101	Surface Water	SVOA	Anthracene	ug/l	0.0016 U	0.002 U	0.002 U	0.004 UJ	0.004 U	0.098 U	0.1 U	0.097 U	20 U	0.31 U					

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	101	Surface Water	SVOA	Azobenzene	ug/l									200 U						
11	101	Surface Water	SVOA	Benzo(a)anthracene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.013 UJ	0.013 U	0.098 U	0.1 U	0.097 U	20 U	0.052 U					
11	101	Surface Water	SVOA	Benzo(a)pyrene	ug/l	0.0003 U	0.0005 U	0.0005 U	0.001 UJ	0.001 U	0.098 U	0.1 U	0.097 U	20 U	0.066 U					
11	101	Surface Water	SVOA	Benzo(b)fluoranthene	ug/l	0.0008 U	0.001 U	0.0008 U	0.006 J	0.002 U	0.098 U	0.2 U	0.19 U	20 U	0.052 U					
11	101	Surface Water	SVOA	Benzo(g,h,i)perylene	ug/l	0.0008 U	0.001 UJ	0.0001 U	0.0027 J	0.002 U	0.098 U	0.2 U	0.19 U	25 U	0.094 U					
11	101	Surface Water	SVOA	Benzo(k)fluoranthene	ug/l	0.0002 U	0.0004	0.0003 U	0.0004 UJ	0.0004 U	0.098 U	0.1 U	0.097 U	25 U	0.1 U					
11	101	Surface Water	SVOA	Benzoic acid	ug/l									50 U						
11	101	Surface Water	SVOA	Benzofluoranthenes (total)	ug/l	0.0008 U	0.0004	0.0008 U	0.006	0.002 U	0.098 U	0.1								
11	101	Surface Water	SVOA	Benzyl alcohol	ug/l									20 U						
11	101	Surface Water	SVOA	bis(2-Chloroethoxy)methane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U						
11	101	Surface Water	SVOA	bis(2-Chloroethyl)ether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	5 U	5 U	5 U	54 J	1 J	5 U	0.33 J	5 U	20 U						
11	101	Surface Water	SVOA	Butylbenzylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Carbazole	ug/l								5 U							
11	101	Surface Water	SVOA	Chrysene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.013 UJ	0.013 U	0.049 U	0.1 U	0.097 U	20 U	0.052 U					
11	101	Surface Water	SVOA	CPAH (total)	ug/l	0.0032 U	0.0004	0.0067 U	0.006	0.013 U	0.49 U	0.1								
11	101	Surface Water	SVOA	Dibenz(a,h)anthracene	ug/l	0.0016 U	0.0067 UJ	0.0067 U	0.013 UJ	0.013 U	0.49 U	0.2 U	0.19 U	25 U	0.16 U					
11	101	Surface Water	SVOA	Dibenzofuran	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Diethylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Dimethylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Di-n-butylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Di-n-octylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Fluoranthene	ug/l	0.0032 U	0.0068	0.0067 U	0.0812 J	0.013 U	0.49 U	0.2 U	0.19 U	20 U	0.052 U					
11	101	Surface Water	SVOA	Fluorene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.013 UJ	0.013 U	0.098 U	0.1 U	0.097 U	20 U	0.13 U					
11	101	Surface Water	SVOA	Hexachlorobenzene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Hexachlorobutadiene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	30 U						
11	101	Surface Water	SVOA	Hexachlorocyclopentadiene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	30 U						
11	101	Surface Water	SVOA	Hexachloroethane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	HPAH (total)	ug/l	0.0032 U	0.0072	0.0067 U	0.1579	0.013 U	0.49 U	0.1								
11	101	Surface Water	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.013 UJ	0.013 U	0.098 U	0.1 U	0.097 U	20 U	0.21 U					
11	101	Surface Water	SVOA	Isophorone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U						
11	101	Surface Water	SVOA	m,p-Cresols	ug/l									20 U						
11	101	Surface Water	SVOA	LPAH (total)	ug/l	5 U	0.014	5 U	0.325	5 U	2 U	0.1								
11	101	Surface Water	SVOA	Naphthalene	ug/l	0.0097 U	0.014	0.012 U	0.105 J	0.04 U	2 U	1 U	3.1 J	20 U	0.25 U					
11	101	Surface Water	SVOA	NCPAH (total)	ug/l	5 U	0.0208	5 U	0.4769	5 U	5 U	0.1								
11	101	Surface Water	SVOA	Nitrobenzene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	N-Nitrosodimethylamine	ug/l									20 U						
11	101	Surface Water	SVOA	N-Nitrosodinpropylamine	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	N-Nitrosodiphenylamine	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	101	Surface Water	SVOA	Pentachlorophenol	ug/l	19 UJ	20 U	20 U	20 U	20 U	20 U	20 U	5 U	140 U						
11	101	Surface Water	SVOA	Phenanthrene	ug/l	0.0032 U	0.013 U	0.013 U	0.22 J	0.027 U	0.098 U	0.1 U	0.097 U	20 U	0.052 U					
11	101	Surface Water	SVOA	Phenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U						
11	101	Surface Water	SVOA	Pyrene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.068 J	0.013 U	0.098 U	0.1 U	0.097 U	20 U	0.052 U					
11	101	Surface Water	TIN	Aluminum	ug/l	99.1 J	46.4 J	54.3 J	331	252	116	66.4 J	192 J	20 U	316	134				
11	101	Surface Water	TIN	Antimony	ug/l	0.4 U	0.1 U	0.1 U	0.18 U	0.18 U	0.69 J	0.087 U	1.9 J	1 U	0.5 U	0.5 U	1 U	1 U 1	0.31 UJ	0.090 U 0.090 U
11	101	Surface Water	TIN	Arsenic	ug/l	0.7 U	0.7 U	0.9 U	1.3 U	1.3 U	0.88 J	0.6 J	2.9 U	5 U	1 U	1 U	1 U	1 U 1	0.19 UJ	0.57 0.60
11	101	Surface Water	TIN	Barium	ug/l	8.2 J	7.9 J	8.3 J	6 J	7.4 J	8.3 J	9.1 J	10.2 J	7.22	9.35	8.36				
11	101	Surface Water	TIN	Beryllium	ug/l	0.26 U	0.2 U	0.3 U	0.2 U	0.22 U	0.3 J	0.28 U	0.6 U	1 U	0.5 U	0.5 U	1 U	1 U 1	0.043 U	0.020 U 0.020 U
11	101	Surface Water	TIN	Cadmium	ug/l	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	0.047 U	0.053 U	0.3 U	2 U	0.2 U	0.2 U	1 U	1 U 1	0.094 UJ	0.020 U 0.020 U

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	101	Surface Water	TIN	Calcium	ug/l	17600	20800	18300	8330	14900	21100	22900	15300	21900	18400					
11	101	Surface Water	TIN	Chromium	ug/l	0.3 U	0.36 J	0.35 U	0.44 U	0.26 J	6.4 U	56.4	0.4 U	6 U	0.352	0.252 J	0.73 J	0.73 J 1	0.12 J	0.35 U 0.20 U
11	101	Surface Water	TIN	Cobalt	ug/l	0.1 U	0.1 U	0.1 U	0.15 J	0.13 J	2.9 U	0.65 J	0.5 U	0.8 U	0.1 U	0.123				
11	101	Surface Water	TIN	Copper	ug/l	1.1 U	3.8 J	4.2 U	8.4 J	5.9 U	2.7 J	10.2	1.4 J	6 U	1.69	0.5 U	5.3	5.3 2	0.58 J	0.27 0.25 U
11	101	Surface Water	TIN	Iron	ug/l	357	330	273	425	399	326	623	306	1000 U	1070					
11	101	Surface Water	TIN	Lead	ug/l	0.45 U	0.41 U	0.25 U	1.3 J	1.7 J	0.019 U	0.32 J	1.6 U	2 U	0.431	0.15 U	0.67 J	0.67 J 1	0.075 UJ	0.030 U 0.030 U
11	101	Surface Water	TIN	Magnesium	ug/l	4690	5350	4870	2940	4010	5200	5690	5470	5290	4570					
11	101	Surface Water	TIN	Manganese	ug/l	17.7	33.9	20.1	17.8	19.8 J	49	49.9	22.3	57.3	52.9	28.6				
11	101	Surface Water	TIN	Mercury	ug/l	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ	0.1 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U 0.2	0.018 UJ	0.20 U 0.20 U
11	101	Surface Water	TIN	Nickel	ug/l	0.31 J	0.53 U	11.5 U	9.3 U	9.3 U	3.6 U	38.4	0.7 U	2 U	1.33	0.803	3.67	3.67 2	50 UJ	0.71U 0.58 U
11	101	Surface Water	TIN	Potassium	ug/l	780	976	944	1360	1190	1060	1140	1590 J	1140	1760					
11	101	Surface Water	TIN	Selenium	ug/l	0.8 U	0.7 U	0.8 U	0.8 U	0.8 U	0.97 J	2.4 J	1.1 U	5 U	0.652	0.5 U	1 U	1 U 2	0.29 J	1.2 U 1.2 U
11	101	Surface Water	TIN	Silver	ug/l	2.5 U	3.3 U	1.8 U	4.1 U	4.1 U	3 U	0.5 U	0.7 U	2 U	0.35 U	0.368 J	1 U	1 U 1	0.085 U	0.030 U 0.030 U
11	101	Surface Water	TIN	Sodium	ug/l	17700	16600	17100	14800	16000	17200	17900	19100		18100					
11	101	Surface Water	TIN	Thallium	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.008 U	0.012 U	3.5 U	1 U	0.25 U	0.25 U	1 U	1 U 1	0.044 U	0.020 U 0.020 U
11	101	Surface Water	TIN	Vanadium	ug/l	0.66 U	0.4 J	0.33 J	0.74 J	0.62 J	2 U	0.8 J	0.8 J	20 U	1.62	2.12				
11	101	Surface Water	TIN	Zinc	ug/l	6.6 U	4.8 J	4.9 U	15.6 J	11.2 J	9.1 J	22.8	16.1 J	25 U	7.66	5.4 J	17.5	17.5 13	3.4 J	1.83 2.35
11	101	Surface Water	VOA	1,1,1,2-Tetrachloroethane	ug/l									1 U	2 U					
11	101	Surface Water	VOA	1,1,1-Trichloroethane	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	1,1,2,2-Tetrachloroethane	ug/l						1 U		1 U	2 U	2 U					
11	101	Surface Water	VOA	1,1,2-Trichloroethane	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	1,1,2-Trichlorotrifluoroethane	ug/l										2 U					
11	101	Surface Water	VOA	1,1-Dichloroethane	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	1,1-Dichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	1,1-Dichloropropene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	1,2,3-Trichlorobenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	1,2,3-Trichloropropane	ug/l									2 U	2 U					
11	101	Surface Water	VOA	1,2,4-Trichlorobenzene	ug/l						1 U			2 U	2 U					
11	101	Surface Water	VOA	1,2,4-Trimethylbenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	1,2-Dibromo-3-chloropropane	ug/l						1 U			2.5 U	10 U					
11	101	Surface Water	VOA	1,2-Dibromoethane	ug/l						1 U			1 U	2 U					
11	101	Surface Water	VOA	1,2-Dichlorobenzene	ug/l						1 U			1 U	2 U					
11	101	Surface Water	VOA	1,2-Dichloroethane	ug/l						1 U		1 U	2 U	2 U					
11	101	Surface Water	VOA	1,2-Dichloropropane	ug/l						1 U		1 U	2 U	2 U					
11	101	Surface Water	VOA	1,3,5-Trimethylbenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	1,3-Dichlorobenzene	ug/l						1 U			1 U	2 U					
11	101	Surface Water	VOA	1,3-Dichloropropane	ug/l									1 U	2 U					
11	101	Surface Water	VOA	1,3-Dichloropropene	ug/l						1 U									
11	101	Surface Water	VOA	1,4-Dichlorobenzene	ug/l						1 U			1 U	2 U					
11	101	Surface Water	VOA	2,2-Dichloropropane	ug/l									1 U	2 U					
11	101	Surface Water	VOA	2-Butanone	ug/l						5 U		5 U	50 U	50 U					
11	101	Surface Water	VOA	2-Chloroethyl vinyl ether	ug/l									10 U	10 U					
11	101	Surface Water	VOA	2-Chlorotoluene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	2-Hexanone	ug/l						5 U		5 U	10 U	20 U					

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	101	Surface Water	VOA	4-Chlorotoluene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	4-Isopropyltoluene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	4-Methyl-2-pentanone	ug/l						5 U		5 U	10 U	20 U					
11	101	Surface Water	VOA	Acetone	ug/l						5 U		5 U		50 U					
11	101	Surface Water	VOA	Acrylonitrile	ug/l										10 U					
11	101	Surface Water	VOA	Benzene	ug/l	0.3 U	0.2 U	0.1 U	0.1 U	1 U	1 U	0.2 U	1 U	0.5 U	2 U					
11	101	Surface Water	VOA	Bromobenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	Bromochloromethane	ug/l						1 U			1 U	2 U					
11	101	Surface Water	VOA	Bromodichloromethane	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Bromoform	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Bromomethane	ug/l						1 U		1 U	2 U	5 U					
11	101	Surface Water	VOA	BTEX (total)	ug/l	1 U	0.9 U	0.2 U	0.2 U	2 U	2 U	0.2								
11	101	Surface Water	VOA	Carbon disulfide	ug/l						1 U		1 U	10 U	2 U					
11	101	Surface Water	VOA	Carbon tetrachloride	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Chlorobenzene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Chloroethane	ug/l						1 U		1 U	1 U	5 U					
11	101	Surface Water	VOA	Chloroform	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Chloromethane	ug/l						1 U		1 U	1 U	5 U					
11	101	Surface Water	VOA	cis-1,2-Dichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	cis-1,3-Dichloropropene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Dibromochloromethane	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Dibromomethane	ug/l									2 U	2 U					
11	101	Surface Water	VOA	Dichlorodifluoromethane	ug/l								1 U	1 U	5 U					
11	101	Surface Water	VOA	Ethylbenzene	ug/l	0.4 U	0.2 U	0.1 U	0.1 U	1 U	1 U	0.2 U	1 U	1 U	2 U					
11	101	Surface Water	VOA	Hexachlorobutadiene	ug/l									2 U	2 U					
11	101	Surface Water	VOA	Iodomethane	ug/l										5 U					
11	101	Surface Water	VOA	Isopropylbenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	m,p-Xylene	ug/l								1 U		2 U					
11	101	Surface Water	VOA	Methyl Tert-Butyl Ether	ug/l										2 U					
11	101	Surface Water	VOA	Methylene chloride	ug/l						2 U		1 U	5 U	5 U					
11	101	Surface Water	VOA	m-Xylene	ug/l						2 U	0.54								
11	101	Surface Water	VOA	Naphthalene	ug/l									2 U	2 U					
11	101	Surface Water	VOA	n-Butylbenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	n-Propylbenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	o-Xylene	ug/l						1 U	0.22	1 U		2 U					
11	101	Surface Water	VOA	sec-Butylbenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	Styrene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	tert-Butylbenzene	ug/l									1 U	2 U					
11	101	Surface Water	VOA	Tetrachloroethene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Toluene	ug/l	0.5 U	0.9 U	0.2 U	0.2 U	1 U	1 U	0.3 U	1 U	1 U	2 U					
11	101	Surface Water	VOA	trans-1,2-Dichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	trans-1,3-Dichloropropene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	trans-1,4-Dichloro-2-butene	ug/l										10 U					
11	101	Surface Water	VOA	Trichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	101	Surface Water	VOA	Trichlorofluoromethane	ug/l								1 U	1 U	2 U					
11	101	Surface Water	VOA	Vinyl acetate	ug/l										5 U					
11	101	Surface Water	VOA	Vinyl chloride	ug/l						1 U		1 U	2 U	2 U					
11	101	Surface Water	VOA	Xylenes	ug/l	1 U	0.5 U	0.2 U	0.2 U	2 U	1 U			2 U						
11	101	Surface Water	VOA	Xylenes (total)	ug/l	1 U	0.5 U	0.2 U	0.2 U	2 U	2 U	0.54								
11	102	Surface Water	DIN	Aluminum	ug/l	40.2 J	19.7 U	18.9 U	214	176	27 U	43 U	108 J	3.22	3.71	2.84				
11	102	Surface Water	DIN	Antimony	ug/l	0.4 U	0.14 U	0.12 U	2.3 J	0.39 J	0.046 U	0.087 U	1.6 U	0.5 U	0.165	0.293	0.25 J	0.25 J 1	0.11 UJ	0.090 U
11	102	Surface Water	DIN	Arsenic	ug/l	0.7 U	0.7 U	0.9 U	1.3 U	1.3 U	0.67 J	0.37 J	2.9 U	2 U	0.199	0.259	1 U	1 U 1	0.10 UJ	0.45 J
11	102	Surface Water	DIN	Barium	ug/l	8.9 J	9.3 J	9.1 J	7 J	8.6 J	8.9 J	8.5 J	11.4 J	7.74	7.58	7.85				

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	102	Surface Water	DIN	Beryllium	ug/l	0.26 U	0.2 U	0.3 U	0.2 U	0.2 U	0.33 U	0.28 U	0.6 U	0.5 U	0.15 U	0.15 U	1 U	1 U 1	0.043 U	0.020 U
11	102	Surface Water	DIN	Cadmium	ug/l	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	0.047 U	0.64 J	0.3 U	2 U	0.2 U	0.2 U	1 U	1 U 0.1	0.094 U	0.020 U
11	102	Surface Water	DIN	Calcium	ug/l	20900	22400	21500	9300	16500	22100	22200	14900	22100	19400	25000				
11	102	Surface Water	DIN	Chromium	ug/l	0.7 U	0.43 J	0.27 U	0.58 U	0.38 J	6.4 U	2.3 J	0.4 U	2.4	1.25	0.61	1 U	1 U 1	0.12 U	0.20 U
11	102	Surface Water	DIN	Cobalt	ug/l	0.1 U	0.1 U	0.1 U	0.12 J	0.11 J	2.9 U	0.043 U	0.5 U	0.4 U	0.5 U	4.99				
11	102	Surface Water	DIN	Copper	ug/l	1.6 U	1.2 U	3.9 U	15.9	5.9 U	2.1 U	0.7 U	1.4 J	3 U	0.495	1.49 J	3.11	3.11 2	0.84 J	0.48
11	102	Surface Water	DIN	Iron	ug/l	208	216	156	316	369	62.6 J	134	63.3 J	1000 U	50 U	150				
11	102	Surface Water	DIN	Lead	ug/l	0.54 U	1 U	0.29 U	1.5 J	1.9 J	0.019 U	0.26 J	1.8 J	0.3 U	0.1 U	0.131	1 UJ	1 UJ 1	0.075 U	0.042 U
11	102	Surface Water	DIN	Magnesium	ug/l	5480	5650	5750	3090	4450	5400	5670	5850	5570	5770	6300				
11	102	Surface Water	DIN	Manganese	ug/l	11.8	12.1	17	17.2	15 J	12.9	11.5	15.4	10.3	11.8	15.6				
11	102	Surface Water	DIN	Mercury	ug/l	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ	0.1 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U 0.2	0.018 UJ	0.20 U
11	102	Surface Water	DIN	Nickel	ug/l	0.43 J	0.61 U	11.5 U	9.3 U	9.3 U	3.7 J	2.2 J	0.7 U	1 U	0.986	1.16	0.78 J	0.78 J 2	50 UJ	0.92
11	102	Surface Water	DIN	Potassium	ug/l	1090	1040	1320	1410	1530	1000	1210	1990 J	1110	1150	1100				
11	102	Surface Water	DIN	Selenium	ug/l	0.8 U	0.7 U	0.8 U	0.8 U	0.8 U	1.2 J	2.4 J	1.1 U	2.5 U	0.5 U	0.761	1 U	1 U 2	0.27 J	1.2 U
11	102	Surface Water	DIN	Silver	ug/l	2.5 U	3.3 U	1.8 U	4.1 U	4.1 U	3 U	0.5 U	0.7 U	1 U	0.1 U	0.1 U	1 U	1 U 1	0.085 UJ	0.030 U
11	102	Surface Water	DIN	Sodium	ug/l	18600	17400	18000	15000	16500	17200	17900	22900		16700	19000				
11	102	Surface Water	DIN	Thallium	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.008 U	0.012 U	3.5 U	0.5 U	0.05 U	0.05 U	0.04 UJ	0.04 UJ 1	0.044 U	0.020 U
11	102	Surface Water	DIN	Vanadium	ug/l	0.48 U	0.12 J	0.11 J	0.45 J	0.4 J	2 U	0.3 U	0.3 U	10 U	5 U	5 U				
11	102	Surface Water	DIN	Zinc	ug/l	6 U	7.5 J	8.1 U	26.2	21.6	12.1 J	12.1	48.2	10 U	17	5.95	12.6	12.6 6.98	4.6 J	5.05
11	102	Surface Water	P/A	4,4-DDD	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	4,4-DDE	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	4,4-DDT	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	Aldrin	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	alpha-BHC	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	alpha-Chlordane	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Aroclor 1016	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.102 U		0.53 UJ	0.5 U			
11	102	Surface Water	P/A	Aroclor 1221	ug/l	0.4 U	2 U	0.4 U	0.4 U	0.2 U	0.4 U	0.4 U	0.4 U	0.102 U		0.53 UJ	1 U			
11	102	Surface Water	P/A	Aroclor 1232	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.102 U		0.53 UJ	0.5 U			
11	102	Surface Water	P/A	Aroclor 1242	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.102 U		0.53 U	0.5 U			
11	102	Surface Water	P/A	Aroclor 1248	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.102 U		0.53 UJ	0.5 U			
11	102	Surface Water	P/A	Aroclor 1254	ug/l	0.2 U	1 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.102 U		0.53 UJ	0.5 U			
11	102	Surface Water	P/A	Aroclor 1260	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.102 U		0.53 UJ	0.5 U			
11	102	Surface Water	P/A	beta-BHC	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Chlordane (total)	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U									
11	102	Surface Water	P/A	DDT (total)	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U									
11	102	Surface Water	P/A	delta-BHC	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Dieldrin	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	Endosulfan (total)	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U									
11	102	Surface Water	P/A	Endosulfan I	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Endosulfan II	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	Endosulfan sulfate	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	Endrin	ug/l	0.02 UJ	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	Endrin Aldehyde	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	Endrin ketone	ug/l	0.02 U	0.1 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.031 U						
11	102	Surface Water	P/A	gamma-Chlordane	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Heptachlor	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Heptachlor epoxide	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Lindane	ug/l	0.01 U	0.05 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.031 U						
11	102	Surface Water	P/A	Methoxychlor	ug/l	0.1 U	0.5 U	0.02 U	0.02 U	0.01 U	0.1 U	0.1 U	0.1 U	0.031 U						
11	102	Surface Water	P/A	PCB (Sum Detect + .5 NonDetec	ug/l	0.4 U	2 U	0.4 U	0.4 U	0.2 U	0.4 U									
11	102	Surface Water	P/A	Technical Chlordane	ug/l					0.2 U										
11	102	Surface Water	P/A	Toxaphene	ug/l	1 U	5 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2.6 U						
11	102	Surface Water	SVOA	1,2,4-Trichlorobenzene	ug/l	5 U	5 U	5 U	5 U	5 U			5 U	25 U						

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	102	Surface Water	SVOA	1,2-Dichlorobenzene	ug/l								5 U	20 U						
11	102	Surface Water	SVOA	1,3-Dichlorobenzene	ug/l								5 U	20 U						
11	102	Surface Water	SVOA	1,4-Dichlorobenzene	ug/l								5 U	20 U						
11	102	Surface Water	SVOA	2,2-oxybis(1-Chloropropane)	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2,4,5-Trichlorophenol	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	102	Surface Water	SVOA	2,4,6-Trichlorophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2,4-Dichlorophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2,4-Dimethylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2,4-Dinitrophenol	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	180 U						
11	102	Surface Water	SVOA	2,4-Dinitrotoluene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2,6-Dinitrotoluene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2-Chloronaphthalene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U						
11	102	Surface Water	SVOA	2-Chlorophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2-Methylnaphthalene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	0.052 U					
11	102	Surface Water	SVOA	2-Methylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	2-Nitroaniline	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	102	Surface Water	SVOA	2-Nitrophenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	3,3-Dichlorobenzidine	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	3-Nitroaniline	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	102	Surface Water	SVOA	4,6-Dinitro-2-methylphenol	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	5 U	180 U						
11	102	Surface Water	SVOA	4-Bromophenyl-phenylether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	4-Chloro-3-methylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	4-Chloroaniline	ug/l	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	4-Chlorophenyl-phenylether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	4-Methylphenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U							
11	102	Surface Water	SVOA	4-Nitroaniline	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	5 U	20 U						
11	102	Surface Water	SVOA	4-Nitrophenol	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	5 U	140 U						
11	102	Surface Water	SVOA	Acenaphthene	ug/l	0.0016 U	0.0067 U	0.0002 J	0.0067 U	0.0067 U	0.99 U	1 U	0.97 U	25 U	0.052 U					
11	102	Surface Water	SVOA	Acenaphthylene	ug/l	5 U	5 U	5 U	5 U	5 U	0.99 U	2 U	1.9 U	20 U	0.052 U					
11	102	Surface Water	SVOA	Aniline	ug/l									20 U						
11	102	Surface Water	SVOA	Anthracene	ug/l	0.0016 U	0.002 U	0.0011 J	0.004 U	0.004 U	0.099 U	0.1 U	0.097 U	20 U	0.31 U					
11	102	Surface Water	SVOA	Azobenzene	ug/l									200 U						
11	102	Surface Water	SVOA	Benzo(a)anthracene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.013 U	0.013 U	0.099 U	0.1 U	0.097 U	20 U	0.052 U					
11	102	Surface Water	SVOA	Benzo(a)pyrene	ug/l	0.0003	0.0005 U	0.0004 J	0.0012 J	0.0013	0.099 U	0.1 U	0.097 U	20 U	0.065 U					
11	102	Surface Water	SVOA	Benzo(b)fluoranthene	ug/l	0.0008 U	0.001 U	0.0011 U	0.0025 J	0.002 U	0.099 U	0.2 U	0.19 U	20 U	0.052 U					
11	102	Surface Water	SVOA	Benzo(g,h,i)perylene	ug/l	0.0008 U	0.001 UJ	0.0009	0.002	0.002 U	0.099 U	0.2 U	0.19 U	25 U	0.093 U					
11	102	Surface Water	SVOA	Benzo(k)fluoranthene	ug/l	0.0002	0.0002 U	0.0004 U	0.0008	0.0009	0.099 U	0.1 U	0.097 U	25 U	0.1 U					
11	102	Surface Water	SVOA	Benzoic acid	ug/l									50 U						
11	102	Surface Water	SVOA	Benzofluoranthenes (total)	ug/l	0.0002	0.001 U	0.0011 U	0.0033	0.0009	0.099 U									
11	102	Surface Water	SVOA	Benzyl alcohol	ug/l									20 U						
11	102	Surface Water	SVOA	bis(2-Chloroethoxy)methane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U						
11	102	Surface Water	SVOA	bis(2-Chloroethyl)ether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	5 U	5 U	5 U	6 J	2 J	5 U	0.5 J	5 U	20 U						
11	102	Surface Water	SVOA	Butylbenzylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	Carbazole	ug/l								5 U							
11	102	Surface Water	SVOA	Chrysene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.013 U	0.013 U	0.049 U	0.1 U	0.097 U	20 U	0.052 U					
11	102	Surface Water	SVOA	CPAH (total)	ug/l	0.0005	0.0067 U	0.0004	0.0045	0.0022	0.49 U									
11	102	Surface Water	SVOA	Dibenz(a,h)anthracene	ug/l	0.0016 U	0.0067 UJ	0.0067 U	0.013 U	0.013 U	0.49 U	0.2 U	0.19 U	25 U	0.15 U					
11	102	Surface Water	SVOA	Dibenzofuran	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	Diethylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	Dimethylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	Di-n-butylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	Di-n-octylphthalate	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	102	Surface Water	SVOA	Fluoranthene	ug/l	0.004	0.0067 U	0.0092	0.031 J	0.015	0.49 U	0.2 U	0.19 U	20 U	0.052 U					
11	102	Surface Water	SVOA	Fluorene	ug/l	0.0032 U	0.0067 U	0.0044 J	0.013 U	0.013 U	0.099 U	0.1 U	0.097 U	20 U	0.12 U					
11	102	Surface Water	SVOA	Hexachlorobenzene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	Hexachlorobutadiene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	30 U						
11	102	Surface Water	SVOA	Hexachlorocyclopentadiene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	30 U						
11	102	Surface Water	SVOA	Hexachloroethane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	HPAH (total)	ug/l	0.0079	0.017	0.0226	0.0695	0.0322	0.49 U									
11	102	Surface Water	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	0.0032 U	0.0067 U	0.0067 U	0.013 U	0.013 U	0.099 U	0.1 U	0.097 U	20 U	0.21 U					
11	102	Surface Water	SVOA	Isophorone	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U						
11	102	Surface Water	SVOA	m,p-Cresols	ug/l									20 U						
11	102	Surface Water	SVOA	LPAH (total)	ug/l	5 U	5 U	0.0201	0.056	5 U	2 U									
11	102	Surface Water	SVOA	Naphthalene	ug/l	0.0096 U	0.012 U	0.0138	0.056 J	0.04 U	2 U	1 U	0.97 U	20 U	0.25 U					
11	102	Surface Water	SVOA	NCPAH (total)	ug/l	0.0074	0.017	0.0423	0.121	0.03	5 U									
11	102	Surface Water	SVOA	Nitrobenzene	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	N-Nitrosodimethylamine	ug/l									20 U						
11	102	Surface Water	SVOA	N-Nitrosodinpropylamine	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	N-Nitrosodiphenylamine	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U						
11	102	Surface Water	SVOA	Pentachlorophenol	ug/l	20 U	20 U	20 U	20 U	20 U	20 U	20 U	5 U	140 U						
11	102	Surface Water	SVOA	Phenanthrene	ug/l	0.0032 U	0.013 U	0.0006 J	0.027 UJ	0.0267 U	0.099 U	0.1 U	0.097 U	20 U	0.052 U					
11	102	Surface Water	SVOA	Phenol	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U						
11	102	Surface Water	SVOA	Pyrene	ug/l	0.0034	0.017	0.0121	0.032 J	0.015	0.099 U	0.1 U	0.097 U	20 U	0.052 U					
11	102	Surface Water	TIN	Aluminum	ug/l	65.3 J	27.9 J	34.3 J	335	258	27 U	55.1 J	347	20 U	16	25.3				
11	102	Surface Water	TIN	Antimony	ug/l	0.4 U	0.13 U	0.16 U	0.25 U	0.24 U	0.31 J	0.56 J	1.6 U	1 U	0.5 U	0.5 U	0.3 J	0.3 J 1	0.30 UJ	0.090 UJ
11	102	Surface Water	TIN	Arsenic	ug/l	0.7 U	0.7 U	0.9 U	1.3 U	1.3 U	0.89 J	0.63 J	2.9 U	5 U	1 U	1 U	1 U	1 U 1	0.24 UJ	0.56
11	102	Surface Water	TIN	Barium	ug/l	9.5 J	9.6 J	9.6 J	7.8 J	8.3 J	9.8 J	12.9 J	13.6 J	8.64	9.23	8.56				
11	102	Surface Water	TIN	Beryllium	ug/l	0.2 U	0.2 U	0.3 U	0.2 U	0.21 U	0.33 U	0.28 U	0.6 U	1 U	0.5 U	0.5 U	1 U	1 U 1	0.043 U	0.020 U
11	102	Surface Water	TIN	Cadmium	ug/l	0.1 U	0.2 U	0.1 U	0.13 J	0.1 U	0.047 U	0.053 U	0.3 U	2 U	0.2 U	0.2 U	1 U	1 U 1	0.39 J	0.020 U
11	102	Surface Water	TIN	Calcium	ug/l	20600	22100	21900	9580	16800	22200	23200	15100	22400	20600					
11	102	Surface Water	TIN	Chromium	ug/l	0.3 U	0.35 J	0.21 U	0.55 U	0.25 J	6.4 U	0.6 U	0.8 J	6 U	0.156	0.175 J	1.11	1.11 1	0.12 U	0.20 U
11	102	Surface Water	TIN	Cobalt	ug/l	0.1 U	0.1 U	0.1 U	0.15 J	0.12 J	2.9 U	1.7 J	0.5 U	0.8 U	0.1 U	0.1 U				
11	102	Surface Water	TIN	Copper	ug/l	2 U	4.3 J	5.2 U	6.6 J	7 J	2.1 U	5	3.6 J	6 U	0.665	0.5 U	4.75	4.75 0.848	0.86 J	0.49
11	102	Surface Water	TIN	Iron	ug/l	414	364	322	532	656	209	729	1190	1000 U	199					
11	102	Surface Water	TIN	Lead	ug/l	0.64 U	0.82 U	0.46 U	2.1	0.98 J	0.019 U	0.52 J	7 J	2 U	0.326	0.331	0.93 J	0.93 J 0.305	0.30 J	0.125
11	102	Surface Water	TIN	Magnesium	ug/l	5470	5540	5820	3220	4550	5480	5750	5940	5430	6080					
11	102	Surface Water	TIN	Manganese	ug/l	20.3	18.1	23.4	24.8	24.8 J	18.4	18.4	72.6	12.2	15.6	12				
11	102	Surface Water	TIN	Mercury	ug/l	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U 0.2	0.018 UJ	0.20 U
11	102	Surface Water	TIN	Nickel	ug/l	0.39 J	0.64 U	11.5 U	9.3 U	9.3 U	5.6 J	1.1 J	0.7 U	2 U	0.886	0.921	0.78 J	0.78 J 2	50 UJ	0.72 U
11	102	Surface Water	TIN	Potassium	ug/l	1070	1040	1320	1430	1490	995	1160	2010 J	1040	1140					
11	102	Surface Water	TIN	Selenium	ug/l	0.8 U	0.9 J	0.8 U	0.8 U	0.8 U	0.88 J	2.6 J	1.1 U	5 U	0.714	0.5 U	1 U	1 U 2	0.37 J	1.2 U
11	102	Surface Water	TIN	Silver	ug/l	2.5 U	3.3 U	1.8 U	4.1 U	4.1 U	3 U	0.5 U	0.7 U	2 U	0.35 U	0.466 J	1 U	1 U 1	0.085 U	0.030 U
11	102	Surface Water	TIN	Sodium	ug/l	18500	16900	18000	15300	16600	17400	17700	23100		17100					
11	102	Surface Water	TIN	Thallium	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.008 U	8.4	3.5 U	1 U	0.25 U	0.25 U	1 U	1 U 1	0.044 U	0.020 U
11	102	Surface Water	TIN	Vanadium	ug/l	1.9 U	0.22 J	0.17 J	0.71 J	0.65 J	2 U	0.3 J	1.1 J	20 U	1 U	1 U				
11	102	Surface Water	TIN	Zinc	ug/l	8.4 U	9.5 J	11 J	34.4	19.5 J	12.8 J	10.8	67.5	25 U	11.4	5.39	22.2	22.2 14.7	8.4 J	4.54
11	102	Surface Water	VOA	1,1,1,2-Tetrachloroethane	ug/l									1 U	2 U					
11	102	Surface Water	VOA	1,1,1-Trichloroethane	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	1,1,2,2-Tetrachloroethane	ug/l						1 U		1 U	2 U	2 U					
11	102	Surface Water	VOA	1,1,2-Trichloroethane	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	1,1,2-Trichlorotrifluoroethane	ug/l										2 U					
11	102	Surface Water	VOA	1,1-Dichloroethane	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	1,1-Dichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	1,1-Dichloropropene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	1,2,3-Trichlorobenzene	ug/l									1 U	2 U					

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	102	Surface Water	VOA	1,2,3-Trichloropropane	ug/l									2 U	2 U					
11	102	Surface Water	VOA	1,2,4-Trichlorobenzene	ug/l						1 U			2 U	2 U					
11	102	Surface Water	VOA	1,2,4-Trimethylbenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	1,2-Dibromo-3-chloropropane	ug/l						1 U			2.5 U	10 U					
11	102	Surface Water	VOA	1,2-Dibromoethane	ug/l						1 U			1 U	2 U					
11	102	Surface Water	VOA	1,2-Dichlorobenzene	ug/l						1 U			1 U	2 U					
11	102	Surface Water	VOA	1,2-Dichloroethane	ug/l						1 U		1 U	2 U	2 U					
11	102	Surface Water	VOA	1,2-Dichloropropane	ug/l						1 U		1 U	2 U	2 U					
11	102	Surface Water	VOA	1,3,5-Trimethylbenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	1,3-Dichlorobenzene	ug/l						1 U			1 U	2 U					
11	102	Surface Water	VOA	1,3-Dichloropropane	ug/l									1 U	2 U					
11	102	Surface Water	VOA	1,3-Dichloropropene	ug/l						1 U									
11	102	Surface Water	VOA	1,4-Dichlorobenzene	ug/l						1 U			1 U	2 U					
11	102	Surface Water	VOA	2,2-Dichloropropane	ug/l									1 U	2 U					
11	102	Surface Water	VOA	2-Butanone	ug/l						5 U		5 U	50 U	50 U					
11	102	Surface Water	VOA	2-Chloroethyl vinyl ether	ug/l									10 U	10 U					
11	102	Surface Water	VOA	2-Chlorotoluene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	2-Hexanone	ug/l						5 U		5 U	10 U	20 U					
11	102	Surface Water	VOA	4-Chlorotoluene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	4-Isopropyltoluene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	4-Methyl-2-pentanone	ug/l						5 U		5 U	10 U	20 U					
11	102	Surface Water	VOA	Acetone	ug/l						5 U		5 U		50 U					
11	102	Surface Water	VOA	Acrylonitrile	ug/l										10 U					
11	102	Surface Water	VOA	Benzene	ug/l	0.3 U	0.2 U	0.1 U	0.1 U	1 U	1 U	0.2 U	1 U	0.5 U	2 U					
11	102	Surface Water	VOA	Bromobenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	Bromochloromethane	ug/l						1 U			1 U	2 U					
11	102	Surface Water	VOA	Bromodichloromethane	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Bromoform	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Bromomethane	ug/l						1 U		1 U	2 U	5 U					
11	102	Surface Water	VOA	BTEX (total)	ug/l	1 U	0.9 U	0.2 U	0.2 U	2 U	2 U									
11	102	Surface Water	VOA	Carbon disulfide	ug/l						1 U		1 U	10 U	2 U					
11	102	Surface Water	VOA	Carbon tetrachloride	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Chlorobenzene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Chloroethane	ug/l						1 U		1 U	1 U	5 U					
11	102	Surface Water	VOA	Chloroform	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Chloromethane	ug/l						1 U		1 U	1 U	5 U					
11	102	Surface Water	VOA	cis-1,2-Dichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	cis-1,3-Dichloropropene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Dibromochloromethane	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Dibromomethane	ug/l									2 U	2 U					
11	102	Surface Water	VOA	Dichlorodifluoromethane	ug/l								1 U	1 U	5 U					
11	102	Surface Water	VOA	Ethylbenzene	ug/l	0.4 U	0.2 U	0.1 U	0.1 U	1 U	1 U	0.2 U	1 U	1 U	2 U					
11	102	Surface Water	VOA	Hexachlorobutadiene	ug/l									2 U	2 U					
11	102	Surface Water	VOA	Iodomethane	ug/l										5 U					
11	102	Surface Water	VOA	Isopropylbenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	m,p-Xylene	ug/l								1 U		2 U					
11	102	Surface Water	VOA	Methyl Tert-Butyl Ether	ug/l										2 U					
11	102	Surface Water	VOA	Methylene chloride	ug/l						0.12 J		1 U	5 U	5 U					
11	102	Surface Water	VOA	m-Xylene	ug/l						2 U	0.56								
11	102	Surface Water	VOA	Naphthalene	ug/l									2 U	2 U					
11	102	Surface Water	VOA	n-Butylbenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	n-Propylbenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	o-Xylene	ug/l						1 U	0.2 U	1 U		2 U					

SMWU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						5/96	8/96	11/96	2/97	5/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08
11	102	Surface Water	VOA	sec-Butylbenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	Styrene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	tert-Butylbenzene	ug/l									1 U	2 U					
11	102	Surface Water	VOA	Tetrachloroethene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Toluene	ug/l	0.5 U	0.9 U	0.2 U	0.2 U	1 U	1 U	0.3 U	1 U	1 U	2 U					
11	102	Surface Water	VOA	trans-1,2-Dichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	trans-1,3-Dichloropropene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	trans-1,4-Dichloro-2-butene	ug/l										10 U					
11	102	Surface Water	VOA	Trichloroethene	ug/l						1 U		1 U	1 U	2 U					
11	102	Surface Water	VOA	Trichlorofluoromethane	ug/l								1 U	1 U	2 U					
11	102	Surface Water	VOA	Vinyl acetate	ug/l										5 U					
11	102	Surface Water	VOA	Vinyl chloride	ug/l						1 U		1 U	2 U	2 U					
11	102	Surface Water	VOA	Xylenes	ug/l	1 U	0.5 U	0.2 U	0.2 U	2 U	1 U			2 U						
11	102	Surface Water	VOA	Xylenes (total)	ug/l	1 U	0.5 U	0.2 U	0.2 U	2 U	2 U									

Notes:
Blank cells in the concentration columns indicate that a sample was not collected from that location or the sample was not analyzed for that chemical.
J - estimated value
U - not detected, value shown is the reporting limit.
UJ - estimated reporting limit
ug/l - micrograms per liter

Summary of Chemicals Detected 1996 through 2010
Groundwater
Roberts Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						3/96	6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
25	A-3	Groundwater	DIN	Aluminum	ug/l											928		1260	504	1460	781	672	3390
25	A-3	Groundwater	DIN	Antimony	ug/l											0.241	1 U	1 U	0.11 UJ	0.12	0.090 U	0.090 U	0.05 J
25	A-3	Groundwater	DIN	Arsenic	ug/l											0.15 U	1 UJ	1 U	0.10 U	0.45 J	0.24 J	0.5 U	0.50 J
25	A-3	Groundwater	DIN	Barium	ug/l											4.81							
25	A-3	Groundwater	DIN	Beryllium	ug/l											0.15 U	1 U	1 U	0.043 U	0.027	0.023	0.012 J	0.063
25	A-3	Groundwater	DIN	Cadmium	ug/l											0.2 U	1 UJ	0.1 U	0.18	0.054	0.042 U	0.086	0.146
25	A-3	Groundwater	DIN	Calcium	ug/l											7800							
25	A-3	Groundwater	DIN	Chromium	ug/l											1.41	4.14	1 U	1.0 U	2.14	0.20 U	0.16 J	11.20
25	A-3	Groundwater	DIN	Cobalt	ug/l											7.28							
25	A-3	Groundwater	DIN	Copper	ug/l											132	234	220	92.8	163 J	96.9	109	128
25	A-3	Groundwater	DIN	Iron	ug/l											4000							
25	A-3	Groundwater	DIN	Lead	ug/l											0.163	1 UJ	1 U	0.075 U	0.294	0.094	0.051	1.06
25	A-3	Groundwater	DIN	Magnesium	ug/l											2100							
25	A-3	Groundwater	DIN	Manganese	ug/l											31							
25	A-3	Groundwater	DIN	Mercury	ug/l											0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U	0.20 U	0.20 U	0.20UJ
25	A-3	Groundwater	DIN	Nickel	ug/l											2.29	3.79	2.16	1.5 J	1.68	1.55	0.97	9.3
25	A-3	Groundwater	DIN	Potassium	ug/l											1900							
25	A-3	Groundwater	DIN	Selenium	ug/l											0.5 U	1.12 U	2 U	0.60 UJ	2.0 U	1.2 U	1.2 U	1.5
25	A-3	Groundwater	DIN	Silver	ug/l											0.1 U	1 U	1 U	0.085 U	0.013 J	0.020 J	0.030 U	0.031
25	A-3	Groundwater	DIN	Sodium	ug/l											10000							
25	A-3	Groundwater	DIN	Thallium	ug/l											0.05 U	1 U	1 U	0.044 U	0.011 J	0.022 U	0.020 U	0.04
25	A-3	Groundwater	DIN	Vanadium	ug/l											5 U							
25	A-3	Groundwater	DIN	Zinc	ug/l											10.5	9.91	6.78 J	6.0	7.33	5.02	20.2	15.1
25	A-3	Groundwater	TIN	Aluminum	ug/l					861	3530	15600	1730	31600	1150	153000		2140	822	1420	3210	1020	38600
25	A-3	Groundwater	TIN	Antimony	ug/l					5 U	0.2 U	0.21 J	1.6 U	1 U	0.5 U	0.5 U	1 U	1 U	0.056 U	0.12	0.090 U	0.090 U	0.12 J
25	A-3	Groundwater	TIN	Arsenic	ug/l					2 U	2 U	0.47 J	2.9 U	5 U	1 U	4.52	1 U	1 U	0.10 U	0.40 J	0.27 J	0.5 U	0.71
25	A-3	Groundwater	TIN	Barium	ug/l					4 J	17	81.4	5.9 J	140	4.68	547							
25	A-3	Groundwater	TIN	Beryllium	ug/l					0.26 U	0.2 U	0.28 U	0.6 U	1 U	0.5 U	0.827	1 U	1 U	0.043 U	0.026	0.043	0.016 J	0.367
25	A-3	Groundwater	TIN	Cadmium	ug/l					0.057 UJ	0.4	0.18 J	0.3 U	2 U	0.2 U	0.46	1 U	0.18	0.094 U	0.047	0.037 U	0.090	0.221
25	A-3	Groundwater	TIN	Calcium	ug/l					5050	5360	7990	5950	10500	5480								
25	A-3	Groundwater	TIN	Chromium	ug/l					4 UJ	9	52.7	1.1 J	79.3	1.27	323	7.73	3.18	1.4 J	1.98	5.75	1.67	107
25	A-3	Groundwater	TIN	Cobalt	ug/l					4 U	10 U	3.9 J	3.1 J	5.34	2.05	17.5							
25	A-3	Groundwater	TIN	Copper	ug/l					81.1	74	227	232	318	134	1180	273	198	115	157 J	106	104	531
25	A-3	Groundwater	TIN	Iron	ug/l					928	4630	18000	298	41300	637								
25	A-3	Groundwater	TIN	Lead	ug/l					2 U	0.7	5	1.6 U	8.53	0.15 U	36.9	0.48 J	0.443 J	0.12 J	0.286	0.710	0.165	13.300
25	A-3	Groundwater	TIN	Magnesium	ug/l					1810	3410	8350	2190 J	16300	2200								
25	A-3	Groundwater	TIN	Manganese	ug/l					25	43	159	24.5	269	19.6	1320							
25	A-3	Groundwater	TIN	Mercury	ug/l					0.26	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.0180 UJ	0.20 U	0.20 U	0.20 U	0.20U
25	A-3	Groundwater	TIN	Nickel	ug/l					6.3 J	20 U	15.1 J	2.4 J	20	1.78	113	3.72	2.68	1.6 J	1.75	2.03	1.18	26.9
25	A-3	Groundwater	TIN	Potassium	ug/l					896	2000 U	1810	770 J	3450	767								
25	A-3	Groundwater	TIN	Selenium	ug/l					3 U	2 U	1.1 J	1.1 U	5 U	0.5 U	7	1 U	2 U	0.62 UJ	2.0 U	0.6 J	1.2 U	1.5U
25	A-3	Groundwater	TIN	Silver	ug/l					4 U	0.2 U	0.5 J	0.7 U	2 U	0.35 U	1.89	1 U	1 U	0.085 U	0.009 J	0.026 J	0.030 U	0.405
25	A-3	Groundwater	TIN	Sodium	ug/l					10700	10800	11000	8420		10600								
25	A-3	Groundwater	TIN	Thallium	ug/l					10 U	0.2 U	0.32 J	3.5 U	2 U	0.25 U	0.677	1 U	1 U	0.044 U	0.010 J	0.040 U	0.020 U	0.254
25	A-3	Groundwater	TIN	Vanadium	ug/l					3 U	10 U	37.6	0.7 J	71.4	1.24	299							
25	A-3	Groundwater	TIN	Zinc	ug/l					28.5 U	11	21.5	9.3 J	34.9	4.81	192	11	9.18 J	8.3 J	7.46	6.40	23.1	44.5
25	A-3	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	1,1,1-Trichloroethane	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l					1 U	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	1,1,2-Trichloroethane	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l										2 U	2 U							

Summary of Chemicals Detected 1996 through 2010
Groundwater
Roberts Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						3/96	6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
25	A-3	Groundwater	VOA	1,1-Dichloroethane	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	1,1-Dichloroethene	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	1,1-Dichloropropene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	1,2,3-Trichloropropane	ug/l									2 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l							1 U		2 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U		2.0 U	
25	A-3	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l					1 U		1 U		2.5 U	10 U	10 U	5 U	5 U	1.0 U	2.0 U		2.0 U	
25	A-3	Groundwater	VOA	1,2-Dibromoethane	ug/l					1 U		1 U		1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U		2.0 U	
25	A-3	Groundwater	VOA	1,2-Dichlorobenzene	ug/l					1 U		1 U		1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	1,2-Dichloroethane	ug/l					1 U	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	1,2-Dichloroethene	ug/l						0.5 U												
25	A-3	Groundwater	VOA	1,2-Dichloropropane	ug/l					1 U	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	1,3-Dichlorobenzene	ug/l					1 U		1 U		1 U	2 U	2 U	1 U	1 U	1.0 U	0.50		0.50 U	
25	A-3	Groundwater	VOA	1,3-Dichloropropane	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	1,3-Dichloropropene	ug/l					1 U	0.5 U												
25	A-3	Groundwater	VOA	1,4-Dichlorobenzene	ug/l					1 U		1 U		1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	2,2-Dichloropropane	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	2-Butanone	ug/l						20 U	5 U	5 U	50 U	50 U	50 U	10 U	10 U	5.0 U	20 UR			
25	A-3	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l									10 U	10 U	10 U							
25	A-3	Groundwater	VOA	2-Chlorotoluene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	2-Hexanone	ug/l					5 U	20 U	5 U	5 U	10 U	20 U	20 U	10 U	10 U	5.0 U	20 UR			
25	A-3	Groundwater	VOA	4-Chlorotoluene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	4-Isopropyltoluene	ug/l									1 U	2 U	2 U	2 U	2 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	4-Methyl-2-pentanone	ug/l					5 U	20 U	5 U	5 U	10 U	20 U	20 U	5 U	5 U	5.0 U	20 UR			
25	A-3	Groundwater	VOA	Acetone	ug/l						20 U	5 U	5 U		50 U	50 U	25 U	25 U	15	20 UR		5.5 J	
25	A-3	Groundwater	VOA	Acrylonitrile	ug/l										10 U	10 U							
25	A-3	Groundwater	VOA	Benzene	ug/l					1 U	0.5 U	1 U	1 U	0.5 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Bromobenzene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	Bromochloromethane	ug/l					1 U		1 U		1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Bromodichloromethane	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Bromoform	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Bromomethane	ug/l					1 U	0.5 U	1 U	1 U	2 U	5 U	5 U	5 U	5 U	1.0 U	0.50 UJ			
25	A-3	Groundwater	VOA	BTEX (total)	ug/l					1 U	0.5 U												
25	A-3	Groundwater	VOA	Carbon disulfide	ug/l					1 UJ	0.5 U	1 U	1 U	10 U	2 U	2 U	10 U	10 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Carbon tetrachloride	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Chlorobenzene	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Chloroethane	ug/l					1 U	0.5 U	1 U	1 U	1 U	5 U	5 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Chloroform	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Chloromethane	ug/l					1 U	0.5 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	1.0 U	0.50 U		0.50 U	

Summary of Chemicals Detected 1996 through 2010
Groundwater
Roberts Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						3/96	6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
25	A-3	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l					1 U		1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Dibromochloromethane	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Dibromomethane	ug/l									2 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Dichlorodifluoromethane	ug/l								1 U	1 U	5 U	5 U	5 U	5 U	1.0 U	0.50 UJ			
25	A-3	Groundwater	VOA	Ethylbenzene	ug/l					1 U	0.5 U	1 U	1	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Hexachlorobutadiene	ug/l									2 U	2 U	2 U	4 U	4 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	Iodomethane	ug/l										5 U	5 U							
25	A-3	Groundwater	VOA	Isopropylbenzene	ug/l									1 U	2 U	2 U	2 U	2 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	m,p-Xylene	ug/l								3.2		2 U	2 U	2 U	2 U	2.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l										2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Methylene chloride	ug/l					2 U	1 U	2 U	1 U	5 U	5 U	1.3 U	5 U	2 U	1.0 U	2.0 U		2.0 U	
25	A-3	Groundwater	VOA	Naphthalene	ug/l									2 U	2 U	2 U	2 U	2 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	n-Butylbenzene	ug/l									1 U	2 U	2 U	5 U	5 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	n-Propylbenzene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	o-Xylene	ug/l								0.9 J		2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	sec-Butylbenzene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	Styrene	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	tert-Butylbenzene	ug/l									1 U	2 U	2 U	1 U	1 U	1.0 U	2.0 U			
25	A-3	Groundwater	VOA	Tetrachloroethene	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Toluene	ug/l					1 U	0.5 U	1 U	0.5 J	1 U	2 U	2 U	1 U	1 U	1.0 U	0.56		0.50 U	
25	A-3	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l					1 U		1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l										10 U	10 U							
25	A-3	Groundwater	VOA	Trichloroethene	ug/l					1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.14 J		0.50 U	
25	A-3	Groundwater	VOA	Trichlorofluoromethane	ug/l								1 U	1 U	2 U	2 U	1 U	1 U	1.0 U	0.50 U			
25	A-3	Groundwater	VOA	Vinyl acetate	ug/l										5 U	5 U							
25	A-3	Groundwater	VOA	Vinyl chloride	ug/l					1 U	0.5 U	1 U	1 U	2 U	2 U	2 UJ	1 U	1 U	1.0 U	0.50 U		0.50 U	
25	A-3	Groundwater	VOA	Xylenes	ug/l					1 U	0.5 U	1 U		2 U									
25	A-3	Groundwater	VOA	Xylenes (total)	ug/l					1 U	0.5 U												

Notes:
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J - estimated value
U - not detected, value shown is the reporting limit.
UJ - estimated reporting limit
ug/l - micrograms per liter

Summary of Chemicals Detected 1996 through 2010
Surface Water
Roberts Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration																	
						3/96	6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/07	9/08	9/09	9/10
25	NL-13	Surface Water	DIN	Silver	ug/l																		0.030U
25	NL-13	Surface Water	TIN	Silver	ug/l																		0.030J
25	RLSW01	Surface Water	DIN	Silver	ug/l											0.1 U	1 U	1 U	0.085 U	0.030 U	0.030 U	0.030 U	0.030U
25	RLSW01	Surface Water	TIN	Silver	ug/l	3 U	3 U	3 U	3 U	4 U	0.2 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U	1 U	0.085 U	0.030 U	0.030 U	0.030 U	0.030J
25	RLSW02	Surface Water	DIN	Silver	ug/l											0.1 U	1 U	1 U	0.085 U	0.030 U	0.030 U	0.030 U	0.006J
25	RLSW02	Surface Water	TIN	Silver	ug/l	3 U		3 U		4 U	0.2 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U	1 U	0.085 U	0.030 U	0.030 U	0.030 U	0.030U
25	RLSW03	Surface Water	DIN	Silver	ug/l											0.1 U	1 U	1 U	0.085 U	0.030 U 0.030 U	0.030 U 0.030 U	0.030 U 0.030 U	0.035
25	RLSW03	Surface Water	TIN	Silver	ug/l	3 U	3 U	3 U	3 U	4 U	0.2 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U	1 U	0.085 U	0.030 U 0.030 U	0.030 U 0.030 U	0.030 U 0.030 U	0.030J
25	RLSW04	Surface Water	DIN	Silver	ug/l											0.1 U	1 U	1 U	0.085 U	0.030 U	0.030 U	0.030 U	0.030J
25	RLSW04	Surface Water	TIN	Silver	ug/l		3 U	3 U	3 U	4 U	0.2 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U	1 U	0.085 U	0.030 U	0.030 U	0.030 U	0.030U
25	RLSW05	Surface Water	DIN	Silver	ug/l											0.1 U	1 U	1 U	0.085 U	0.020 J	0.030 U	0.030 U	0.030U
25	RLSW05	Surface Water	TIN	Silver	ug/l	3 U	3 U	3 U	3 U	4 U	0.2 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U	1 U	0.085 U	0.030 U	0.030 U	0.030 U	0.030J

Notes:
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ug/l - micrograms per liter

Summary of Chemicals Detected in 2009
Sediment
South Davis Road Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration
						9/09
4	DL-01	Sediment	P/A	Aroclor 1016	ug/l	5.7 U
4	DL-01	Sediment	P/A	Aroclor 1221	ug/l	12 U
4	DL-01	Sediment	P/A	Aroclor 1232	ug/l	5.7 U
4	DL-01	Sediment	P/A	Aroclor 1242	ug/l	5.7 UJ
4	DL-01	Sediment	P/A	Aroclor 1248	ug/l	5.7 UJ
4	DL-01	Sediment	P/A	Aroclor 1254	ug/l	5.7 UJ
4	DL-01	Sediment	P/A	Aroclor 1260	ug/l	32 J
4	DL-01	Sediment	SVOA	2-Methylnaphthalene	ug/l	0.78 J
4	DL-01	Sediment	SVOA	Acenaphthene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	Acenaphthylene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	Anthracene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	Benzo(a)anthracene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	Benzo(a)pyrene	ug/l	4.3
4	DL-01	Sediment	SVOA	Benzo(b)fluoranthene	ug/l	1.5
4	DL-01	Sediment	SVOA	Benzo(g,h,i)perylene	ug/l	1.2 J
4	DL-01	Sediment	SVOA	Benzo(k)fluoranthene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	bis(2-Ethylhexyl)phthalate	ug/l	110 J
4	DL-01	Sediment	SVOA	Chrysene	ug/l	1.9
4	DL-01	Sediment	SVOA	Dibenz(a,h)anthracene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	Fluoranthene	ug/l	2.3
4	DL-01	Sediment	SVOA	Fluorene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	Indeno(1,2,3-cd)pyrene	ug/l	1.5 U
4	DL-01	Sediment	SVOA	Naphthalene	ug/l	1.2 J
4	DL-01	Sediment	SVOA	Phenanthrene	ug/l	2.6
4	DL-01	Sediment	SVOA	Pyrene	ug/l	2
4	DL-01	Sediment	TIN	Antimony	ug/l	0.5 J
4	DL-01	Sediment	TIN	Arsenic	ug/l	7.97
4	DL-01	Sediment	TIN	Beryllium	ug/l	0.255
4	DL-01	Sediment	TIN	Cadmium	ug/l	0.639
4	DL-01	Sediment	TIN	Chromium	ug/l	13.8 J
4	DL-01	Sediment	TIN	Copper	ug/l	123
4	DL-01	Sediment	TIN	Lead	ug/l	28.6 J
4	DL-01	Sediment	TIN	Mercury	ug/l	0.019 J
4	DL-01	Sediment	TIN	Nickel	ug/l	18.9
4	DL-01	Sediment	TIN	Selenium	ug/l	0.6 J
4	DL-01	Sediment	TIN	Silver	ug/l	0.072 U
4	DL-01	Sediment	TIN	Thallium	ug/l	0.09
4	DL-01	Sediment	TIN	Zinc	ug/l	183 J

Notes:
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UJ - estimated reporting limit
ug/l - micrograms per liter

Summary of Chemicals Detected 1996 through 2010
Groundwater
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	21-3	Groundwater	DIN	Aluminum	ug/l									21.5	18.6				7.8 11.5	
18/19	21-3	Groundwater	DIN	Antimony	ug/l									0.18	0.12	1 UJ		0.056 U	0.090 U 0.090 U	0.05U
18/19	21-3	Groundwater	DIN	Arsenic	ug/l									3.03	0.975	0.48 J		4.7	1.36 3.10	0.82
18/19	21-3	Groundwater	DIN	Barium	ug/l									6.81	6.86	7.6		7.0	5.31 5.99	5.64
18/19	21-3	Groundwater	DIN	Beryllium	ug/l									0.15 U	0.15 U	1 U		0.043 U	0.020 U 0.020 U	0.030J
18/19	21-3	Groundwater	DIN	Cadmium	ug/l									0.339	0.2 U	1 UJ		0.094 U	0.020 U 0.020 U	0.030J
18/19	21-3	Groundwater	DIN	Calcium	ug/l									13400	14000					
18/19	21-3	Groundwater	DIN	Chromium	ug/l									1.69	0.826	1 U		1.0 U	0.20 U 0.20 U	0.11J
18/19	21-3	Groundwater	DIN	Cobalt	ug/l									0.5 U	2.92					
18/19	21-3	Groundwater	DIN	Copper	ug/l									0.638	0.825	2 U		0.52 U	0.10 U 0.10 U	0.10J
18/19	21-3	Groundwater	DIN	Iron	ug/l									6150	8700					
18/19	21-3	Groundwater	DIN	Lead	ug/l									0.503	0.1 U	1 U		0.075 U	0.030 U 0.030 U	0.030J
18/19	21-3	Groundwater	DIN	Magnesium	ug/l									5490	4500					
18/19	21-3	Groundwater	DIN	Manganese	ug/l									295	249					
18/19	21-3	Groundwater	DIN	Mercury	ug/l										0.2 U	0.2 U		0.137 J	0.20 U 0.20 U	0.20UJ
18/19	21-3	Groundwater	DIN	Nickel	ug/l									0.848	0.638	0.51 J		1.0 J	0.20 U 0.20 U	0.54
18/19	21-3	Groundwater	DIN	Potassium	ug/l									1590	1500					
18/19	21-3	Groundwater	DIN	Selenium	ug/l									0.641	0.5 U	1 U		0.50 UJ	1.2 U 1.2 U	1.5J
18/19	21-3	Groundwater	DIN	Silver	ug/l									0.128	0.319	1 U		0.085 U	0.030 U 0.030 U	0.030U
18/19	21-3	Groundwater	DIN	Sodium	ug/l									22800	26000					
18/19	21-3	Groundwater	DIN	Thallium	ug/l									0.307	0.05 U	0.06 J		0.044 U	0.020 U 0.020 U	0.030J
18/19	21-3	Groundwater	DIN	Vanadium	ug/l									5 U	5 U					
18/19	21-3	Groundwater	DIN	Zinc	ug/l									62.1	1.9 J	5 U		2.3 J	0.83 U 0.66 U	0.84
18/19	21-3	Groundwater	TIN	Aluminum	ug/l				9110	603	45.2 J	188 J	249	2300	4480				3770 1710	
18/19	21-3	Groundwater	TIN	Antimony	ug/l				5 U	0.2 U	0.087 U	1.6 U	1 U	0.5 U	0.5 U	0.22 J		0.29 UJ	0.090 U 0.090 U	0.05U
18/19	21-3	Groundwater	TIN	Arsenic	ug/l	2.2 J	1 U	1 U	10.2	3	0.43 J	2.9 U	5 U	2.04	2.12	2.22		7.4	2.37 1.67	0.9
18/19	21-3	Groundwater	TIN	Barium	ug/l	9.6 J	8.4 J	7.6 J	23.7	8	22.1	6.7 J	12.4	12.6	16.7	23.8		53.2 J	15.0 8.90	5.93
18/19	21-3	Groundwater	TIN	Beryllium	ug/l				0.26 U	0.2 U	0.028 U	0.6 U	1 U	0.5 U	0.5 U	1 U		0.24 J	0.078 0.032	0.030J
18/19	21-3	Groundwater	TIN	Cadmium	ug/l	2 U	5 U	2 U	0.2 J	0.2 U	0.053 U	0.3 U	2 U	0.2 U	0.2 U	1 U		3.1	0.055 0.051	0.030U
18/19	21-3	Groundwater	TIN	Calcium	ug/l	13900	11700	12300	18700	14900	19400	15300	14700	15600						
18/19	21-3	Groundwater	TIN	Chromium	ug/l	6 U	6 U	9 U	4 UJ	5 U	0.6 U	0.5 J	6.5 U	2.09	4.07	6.1		7.3	2.57 1.56	0.19J
18/19	21-3	Groundwater	TIN	Cobalt	ug/l				5	10 U	0.043 U	0.5 U	0.8 U	1.04	2.32					

Summary of Chemicals Detected 1996 through 2010
Groundwater
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	21-3	Groundwater	TIN	Copper	ug/l	4 U	3 U	3 U	15.5 J	2 U	1 J	2.8 J	6 U	5.4	8.22	14.6		41.6	6.24 2.99	0.24
18/19	21-3	Groundwater	TIN	Iron	ug/l	8140	5470	5380	15500	8720	1300	8480	7780	10600						
18/19	21-3	Groundwater	TIN	Lead	ug/l	2.2 J	1 U	1 U	2.3	0.2	0.036 U	1.6 U	2 U	0.826	1.16	1.87		7.1	1.390 0.648	0.036
18/19	21-3	Groundwater	TIN	Magnesium	ug/l	4970 J	4080 J	4320 J	8580	5300	4170	4900 J	4710	5690						
18/19	21-3	Groundwater	TIN	Manganese	ug/l	371	264	295	481	323	23.3	311	274	312	279					
18/19	21-3	Groundwater	TIN	Mercury	ug/l	0.2 U	0.2 U	0.2 U	0.1 U	0.5 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.0180 UJ	0.20 U 0.20 U	0.20U
18/19	21-3	Groundwater	TIN	Nickel	ug/l				5.4 J	20 U	1.5 J	1.1 J	4 U	2.24	3.28	5.51		9.6	1.72 0.88	0.48
18/19	21-3	Groundwater	TIN	Potassium	ug/l	1670 J	2050 J	2090 J	1790	2000 U	1840	1510 J	1610	1510						
18/19	21-3	Groundwater	TIN	Selenium	ug/l	1 U	1 U	1 U	0.48 U	3	1.9 J	1.9 J	5 U	0.5 U	0.5 U	1 UJ		0.42 UJ	1.2 U 1.2 U	1.5J
18/19	21-3	Groundwater	TIN	Silver	ug/l	3 U	3 U	3 U	4 U	0.2 U	0.5 U	0.7 U	2 U	0.35 U	2.14 J	0.13 J		0.085 U	0.043 0.030 U	0.030U
18/19	21-3	Groundwater	TIN	Sodium	ug/l	25300	30400	31500	24200	23900	14800	16200 J		25900						
18/19	21-3	Groundwater	TIN	Thallium	ug/l				10 U	0.2 U	0.68 J	3.5 U	2 U	0.25 U	0.25 U	0.1 J		0.10 J	0.032 U 0.020 U	0.030J
18/19	21-3	Groundwater	TIN	Vanadium	ug/l				68.5	10 U	1.5 J	2.6 J	20 U	18.9	25.4					
18/19	21-3	Groundwater	TIN	Zinc	ug/l	6.2 J	11.6 J	5.8 J	38.1 U	10 U	4.1 J	13.5 J	25 U	29.2	7.61	14.6		58.7	5.51 4.03	1.1
18/19	21-3	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l	1 U	1 U						1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U					
18/19	21-3	Groundwater	VOA	1,1-Dichloroethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,1-Dichloropropene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,2,3-Trichloropropane	ug/l	1 U	1 U						2 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U				1 U		2 U	2 U	2 U	1 U		1.0 U	2.0 U 2.0 U	
18/19	21-3	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1 U	0.68 J	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 U	1 U		1 UJ		1 U		2.5 U	10 U	10 U	5 U		1.0 U	2.0 U 2.0 U	
18/19	21-3	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 U	1 U		1 UJ		1 U		1 U	2 U	2 U	1 U		1.0 U	2.0 U 2.0 U	
18/19	21-3	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	1 U	1 U		1 UJ		1 U		1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,2-Dichloroethene	ug/l					0.5 U										
18/19	21-3	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,3-Dichloro-2-propanol	ug/l	100 U	100 U													
18/19	21-3	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	1 U	1 U		1 UJ		1 U		1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	

Summary of Chemicals Detected 1996 through 2010
Groundwater
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	21-3	Groundwater	VOA	1,3-Dichloropropane	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	0.5 U										
18/19	21-3	Groundwater	VOA	1,4-Dichloro-2-butene(cis)	ug/l	5 U	5 U													
18/19	21-3	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	1 U	1 U		1 UJ		1 U		1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	1,4-Dioxane	ug/l	250 U	250 U													
18/19	21-3	Groundwater	VOA	2,2-Dichloropropane	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	2-Butanone	ug/l	5 U	5 U	5 U		20 U	5 U	5 U	50 U	50 U	50 U	10 U		5.0 U		
18/19	21-3	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l	10 U	10 U						10 U	10 U	10 U					
18/19	21-3	Groundwater	VOA	2-Chlorotoluene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	2-Hexanone	ug/l	5 U	5 U	5 U	5 UJ	20 U	5 U	5 U	10 U	20 U	20 U	10 U		5.0 U		
18/19	21-3	Groundwater	VOA	2-Nitropropane	ug/l	10 U	10 U													
18/19	21-3	Groundwater	VOA	3-chloropropene	ug/l	5 U	5 U													
18/19	21-3	Groundwater	VOA	4-Chlorotoluene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	4-Isopropyltoluene	ug/l								1 U	2 U	2 U	2 U		1.0 U		
18/19	21-3	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 U	5 U	5 U	5 UJ	20 U	5 U	5 U	10 U	20 U	20 U	5 U		5.0 U		
18/19	21-3	Groundwater	VOA	Acetone	ug/l	5 U	5 U	5 U	4.1 J	20 U	5 U	5 U		50 U	50 U	25 U		5.0 U	20 UJ 20 UJ	
18/19	21-3	Groundwater	VOA	Acetonitrile	ug/l	5 U	5 U													
18/19	21-3	Groundwater	VOA	Acrolein	ug/l	25 U	25 U													
18/19	21-3	Groundwater	VOA	Acrylonitrile	ug/l	10 U	10 U							10 U	10 U					
18/19	21-3	Groundwater	VOA	Benzene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	0.5 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Benzyl chloride	ug/l	5 U	5 U													
18/19	21-3	Groundwater	VOA	Bromoacetone	ug/l	2000 U	2000 U													
18/19	21-3	Groundwater	VOA	Bromobenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Bromochloromethane	ug/l				1 UJ		1 U		1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Bromodichloromethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Bromoform	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Bromomethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	2 U	5 U	5 U	5 U		1.0 U		
18/19	21-3	Groundwater	VOA	BTEX (total)	ug/l	1 U	1 U	1 U	1 U	0.5 U										
18/19	21-3	Groundwater	VOA	Carbon disulfide	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	10 U	2 U	2 U	10 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Carbon tetrachloride	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Chlorobenzene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Chloroethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	5 U	5 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Chloroform	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Chloromethane	ug/l	1 U	25	1 U	1 UJ	0.5 U	1 U	1 U	1 U	5 U	5 U	5 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Chloroprene	ug/l	10 U	10 U													
18/19	21-3	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 UJ		1 U	1 U	1 U	2 U	2 U	0.21 J		1.0 U	0.25 J 0.21 J	
18/19	21-3	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Dibromochloromethane	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Dibromomethane	ug/l	1 U	1 U						2 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Dichlorodifluoromethane	ug/l	1 U	1 U					1 U	1 U	5 U	5 U	5 U		1.0 U		
18/19	21-3	Groundwater	VOA	Diethyl ether	ug/l	10 U	10 U													
18/19	21-3	Groundwater	VOA	Ethyl methacrylate	ug/l	5 U	5 U													
18/19	21-3	Groundwater	VOA	Ethylbenzene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Ethylene oxide	ug/l	25 U	25 U													

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Groundwater
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	21-3	Groundwater	VOA	Hexachlorobutadiene	ug/l	1 U	1 U						2 U	2 U	2 U	4 U		1.0 U		
18/19	21-3	Groundwater	VOA	Hexachloroethane	ug/l	10 U	10 U													
18/19	21-3	Groundwater	VOA	Iodomethane	ug/l	5 U	5 U							5 U	5 U					
18/19	21-3	Groundwater	VOA	Isobutyl alcohol	ug/l	100 U	100 U													
18/19	21-3	Groundwater	VOA	Isopropylbenzene	ug/l	1 U	1 U						1 U	2 U	2 U	2 U		1.0 U		
18/19	21-3	Groundwater	VOA	LPAH (total)	ug/l	1 U	1 U													
18/19	21-3	Groundwater	VOA	m,p-Xylene	ug/l	1 U	1 U	1 U				1 J		2 U	2 U	2 U		2.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Malononitrile	ug/l															
18/19	21-3	Groundwater	VOA	Methacrylonitrile	ug/l	5 U	5 U													
18/19	21-3	Groundwater	VOA	Methyl methacrylate	ug/l	5 U	5 U													
18/19	21-3	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Methylene chloride	ug/l	1 U	1 U	1 U	2 UJ	1 U	2 U	1 U	5 U	5 U	1.2 U	5 U		1.0 U	2.0 U 2.0 U	
18/19	21-3	Groundwater	VOA	Naphthalene	ug/l	1 U	1 U						2 U	1.6 J	2 U	2 U		1.0 U		
18/19	21-3	Groundwater	VOA	n-Butylbenzene	ug/l								1 U	2 U	2 U	5 U		1.0 U		
18/19	21-3	Groundwater	VOA	NCPAH (total)	ug/l	1 U	1 U													
18/19	21-3	Groundwater	VOA	Nitrobenzene	ug/l	25 U	25 U													
18/19	21-3	Groundwater	VOA	n-Propylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	o-Xylene	ug/l	1 U	1 U	1 U				1 U		2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Propargyl alcohol	ug/l	1000 U	1000 U													
18/19	21-3	Groundwater	VOA	sec-Butylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Styrene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	tert-Butylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Tetrachloroethene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Toluene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	0.25 J		1.0 U	0.51 U 0.50 U	
18/19	21-3	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 UJ		1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l	5 U	5 U							10 U	10 U					
18/19	21-3	Groundwater	VOA	Trichloroethene	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.30 J 0.30 J	
18/19	21-3	Groundwater	VOA	Trichlorofluoromethane	ug/l	1 U	1 U					1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-3	Groundwater	VOA	Vinyl acetate	ug/l	5 U	5 U							5 U	5 U					
18/19	21-3	Groundwater	VOA	Vinyl chloride	ug/l	1 U	1 U	1 U	1 UJ	0.5 U	1 U	1 U	2 U	2 U	2 UJ	1 U		1.0 U	0.50 U 0.50 U	
18/19	21-3	Groundwater	VOA	Xylenes	ug/l				1 UJ	0.5 U	1 U		2 U						1.0 U 1.0 U	
18/19	21-3	Groundwater	VOA	Xylenes (total)	ug/l	1 U	1 U	1 U	1 U	0.5 U									1.0 U 1.0 U	
18/19	21-4	Groundwater	DIN	Aluminum	ug/l									11.1	9.83				14.8	
18/19	21-4	Groundwater	DIN	Antimony	ug/l									0.101	0.151	1 U		0.26 J	0.090 U	0.05UJ
18/19	21-4	Groundwater	DIN	Arsenic	ug/l									0.376	0.199	1 U		0.10 U	0.37 B	0.50J
18/19	21-4	Groundwater	DIN	Barium	ug/l									0.774	0.745	0.77 J		1.4 U	0.83	0.82
18/19	21-4	Groundwater	DIN	Beryllium	ug/l									0.15 U	0.15 U	1 U		0.043 U	0.020 U	0.030J
18/19	21-4	Groundwater	DIN	Cadmium	ug/l									0.2 U	0.2 U	1 U		0.094 U	0.020 U	0.012J
18/19	21-4	Groundwater	DIN	Calcium	ug/l									7740	7800					
18/19	21-4	Groundwater	DIN	Chromium	ug/l									1.74	0.649	1 U		0.50 J	0.20 U	0.20U
18/19	21-4	Groundwater	DIN	Cobalt	ug/l									0.5 U	3.74					
18/19	21-4	Groundwater	DIN	Copper	ug/l									0.603	1.96	2 U		0.52 UJ	0.10 U	0.26

Summary of Chemicals Detected 1996 through 2010
Groundwater
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SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	21-4	Groundwater	DIN	Iron	ug/l									50 U	130					
18/19	21-4	Groundwater	DIN	Lead	ug/l									0.1 U	0.1 U	1 UJ		0.075 U	0.030 U	0.030J
18/19	21-4	Groundwater	DIN	Magnesium	ug/l									2510	2100					
18/19	21-4	Groundwater	DIN	Manganese	ug/l									8.35	12.1					
18/19	21-4	Groundwater	DIN	Mercury	ug/l										0.2 U	0.2 U		0.0260 UJ	0.20 U	0.20UJ
18/19	21-4	Groundwater	DIN	Nickel	ug/l									0.541	0.561	2 U		0.44 J	0.20 U	0.56
18/19	21-4	Groundwater	DIN	Potassium	ug/l									693	2500 U					
18/19	21-4	Groundwater	DIN	Selenium	ug/l									0.709	0.5 U	1 U		0.11 U	1.2 U	1.5J
18/19	21-4	Groundwater	DIN	Silver	ug/l									0.1 U	0.1 UJ	1 U		0.085 U	0.030 U	0.030U
18/19	21-4	Groundwater	DIN	Sodium	ug/l									10400	10000					
18/19	21-4	Groundwater	DIN	Thallium	ug/l									0.448	0.05 U	1 U		0.044 U	0.020 U	0.030J
18/19	21-4	Groundwater	DIN	Vanadium	ug/l									5 U	5 U					
18/19	21-4	Groundwater	DIN	Zinc	ug/l									27.5	2.45	5 UJ		2.0 J	0.50 U	0.65J
18/19	21-4	Groundwater	TIN	Aluminum	ug/l				100 U	50 U	83 J	134 J	15300	47.7	251				324	
18/19	21-4	Groundwater	TIN	Antimony	ug/l				5 U	0.2 U	0.087 U	1.6 U	1 U	0.5 U	0.5 U	1 U		0.056 U	0.090 U	0.05UJ
18/19	21-4	Groundwater	TIN	Arsenic	ug/l	1 U	1 U	1 U	2 U	2 U	1.6 J	2.9 U	8.41	1 U	1 U	1 U		0.15 J	0.72	0.50J
18/19	21-4	Groundwater	TIN	Barium	ug/l	6 J	4 U	2.5 J	0.91 U	5 U	6.7 J	1 J	56.7	0.878	1.28	0.93 J		1.2 U	2.57	0.84
18/19	21-4	Groundwater	TIN	Beryllium	ug/l				0.26 U	0.2 U	0.28 U	0.6 U	1 U	0.5 U	0.5 UJ	1 U		0.043 U	0.020 U	0.030J
18/19	21-4	Groundwater	TIN	Cadmium	ug/l	2 U	5 U	2 U	0.057 UJ	0.2 U	0.083 J	0.3 U	2 U	0.2 U	0.2 U	1 U		0.094 U	0.020 U	0.011J
18/19	21-4	Groundwater	TIN	Calcium	ug/l	8010	7460	7570	7090	8360	8100	7790	11300	7920						
18/19	21-4	Groundwater	TIN	Chromium	ug/l	8.6 J	6 U	9 U	4 UJ	5 U	0.6 U	0.5 J	32.8	0.1 U	0.363 J	0.85 J		0.56 J	0.20 U	0.20U
18/19	21-4	Groundwater	TIN	Cobalt	ug/l				4 U	10 U	0.31 J	0.5 U	2.16	0.1 U	0.1 U					
18/19	21-4	Groundwater	TIN	Copper	ug/l	4 U	3 U	3 U	4 UJ	2 U	0.7 J	1.1 U	26.9	0.5 U	0.5 U	2 U		2.7	0.61	0.13
18/19	21-4	Groundwater	TIN	Iron	ug/l	139	36.7 J	15.6 J	100 U	60	619	79.7 J	15100	50 U						
18/19	21-4	Groundwater	TIN	Lead	ug/l	1.7 J	1 U	1 U	0.019 UJ	0.2 U	0.32 J	1.6 U	6.68	0.15 U	0.15 U	1 U		0.075 U	0.127	0.030J
18/19	21-4	Groundwater	TIN	Magnesium	ug/l	2120 J	2060 J	2040 J	2060	2290	2280	2110 J	2570	2280						
18/19	21-4	Groundwater	TIN	Manganese	ug/l	11.4 J	11.4 J	11 J	9.6 J	12	302	10.8 J	354	9.66	10.3					
18/19	21-4	Groundwater	TIN	Mercury	ug/l	0.2 U	0.2 U	0.2 U	0.1 U	0.5 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.0260 U	0.20 U	0.20U
18/19	21-4	Groundwater	TIN	Nickel	ug/l				4 U	20 U	1.1 U	0.7 U	19.3	0.545	0.5 U	2 U		0.46 J	0.20 U	0.3
18/19	21-4	Groundwater	TIN	Potassium	ug/l	809 J	1000 J	932 J	640 J	2000 U	686 J	549 J	1100	625						
18/19	21-4	Groundwater	TIN	Selenium	ug/l	1 U	1 U	1 U	3 U	2	0.98 J	1.2 J	5 U	0.5 U	0.5 U	1 UJ		0.47 J	1.2 U	1.5U
18/19	21-4	Groundwater	TIN	Silver	ug/l	3 U	3 U	3 U	4 U	0.2 U	0.5 U	0.7 U	2 U	0.35 U	0.35 U	1 U		0.085 U	0.030 U	0.030U
18/19	21-4	Groundwater	TIN	Sodium	ug/l	10900	10700	10200	10100	11600	11000	7930		11300						
18/19	21-4	Groundwater	TIN	Thallium	ug/l				10 U	0.2 U	0.012 U	3.5 U	2 U	0.25 U	0.25 U	1 U		0.044 U	0.025 U	0.023J
18/19	21-4	Groundwater	TIN	Vanadium	ug/l				3 U	10 U	4.9 J	1.5 J	35.9	1.67	2.19					
18/19	21-4	Groundwater	TIN	Zinc	ug/l	8.3 J	6.4 J	5.8 J	20 U	10 U	2.9 J	8.3 J	25 U	20.8	1.23	5 U		1.8 U	3.74	0.59J
18/19	21-4	Groundwater	VOA	1,1,1,2-Tetrachloroethane	ug/l	1 U	1 U						1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	1,1,1-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,1,2,2-Tetrachloroethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	1,1,2-Trichloroethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,1,2-Trichlorotrifluoroethane	ug/l									2 U	2 U					
18/19	21-4	Groundwater	VOA	1,1-Dichloroethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,1-Dichloroethene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,1-Dichloropropene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	1,2,3-Trichlorobenzene	ug/l								1 U	2 U	2 U	1 U		1.0 UJ		
18/19	21-4	Groundwater	VOA	1,2,3-Trichloropropane	ug/l	1 U	1 U						2 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	1,2,4-Trichlorobenzene	ug/l	1 U	1 U				1 U		2 U	2 U	2 U	1 U		1.0 U	2.0 U	
18/19	21-4	Groundwater	VOA	1,2,4-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	1,2-Dibromo-3-chloropropane	ug/l	1 U	1 U		1 U		1 U		2.5 U	10 U	10 U	5 U		1.0 U	2.0 U	
18/19	21-4	Groundwater	VOA	1,2-Dibromoethane	ug/l	1 U	1 U		1 U		1 U		1 U	2 U	2 U	1 U		1.0 U	2.0 U	
18/19	21-4	Groundwater	VOA	1,2-Dichlorobenzene	ug/l	1 U	1 U		1 U		1 U		1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,2-Dichloroethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,2-Dichloroethene	ug/l					0.5 U										
18/19	21-4	Groundwater	VOA	1,2-Dichloropropane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	2 U	2 U	2 U	1 U		1.0 U	0.50 U	

Summary of Chemicals Detected 1996 through 2010
Groundwater
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	21-4	Groundwater	VOA	1,3,5-Trimethylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	1,3-Dichloro-2-propanol	ug/l	100 U	100 U													
18/19	21-4	Groundwater	VOA	1,3-Dichlorobenzene	ug/l	1 U	1 U		1 U		1 U		1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,3-Dichloropropane	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	0.5 U										
18/19	21-4	Groundwater	VOA	1,4-Dichloro-2-butene(cis)	ug/l	5 U	5 U													
18/19	21-4	Groundwater	VOA	1,4-Dichlorobenzene	ug/l	1 U	1 U		1 U		1 U		1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	1,4-Dioxane	ug/l	250 U	250 U													
18/19	21-4	Groundwater	VOA	2,2-Dichloropropane	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	2-Butanone	ug/l	5 U	5 U	5 U		20 U	5 U	5 U	50 U	50 U	50 U	10 U		5.0 U		
18/19	21-4	Groundwater	VOA	2-Chloroethyl vinyl ether	ug/l	10 U	10 U						10 U	10 U	10 U					
18/19	21-4	Groundwater	VOA	2-Chlorotoluene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	2-Hexanone	ug/l	5 U	5 U	5 U	5 U	20 U	5 U	5 U	10 U	20 U	20 U	10 U		5.0 UJ		
18/19	21-4	Groundwater	VOA	2-Nitropropane	ug/l	10 U	10 U													
18/19	21-4	Groundwater	VOA	3-chloropropene	ug/l	5 U	5 U													
18/19	21-4	Groundwater	VOA	4-Chlorotoluene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	4-Isopropyltoluene	ug/l								1 U	2 U	2 U	2 U		1.0 U		
18/19	21-4	Groundwater	VOA	4-Methyl-2-pentanone	ug/l	5 U	5 U	5 U	5 U	20 U	5 U	5 U	10 U	20 U	20 U	5 U		5.0 U		
18/19	21-4	Groundwater	VOA	Acetone	ug/l	5 U	5 U	5 U		20 U	5 U	5 U		50 U	50 U	25 U		5.0 U	20 UJ	
18/19	21-4	Groundwater	VOA	Acetonitrile	ug/l	5 U	5 U													
18/19	21-4	Groundwater	VOA	Acrolein	ug/l	25 U	25 U													
18/19	21-4	Groundwater	VOA	Acrylonitrile	ug/l	10 U	10 U							10 U	10 U					
18/19	21-4	Groundwater	VOA	Benzene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Benzyl chloride	ug/l	5 U	5 U													
18/19	21-4	Groundwater	VOA	Bromoacetone	ug/l	2000 U	2000 U													
18/19	21-4	Groundwater	VOA	Bromobenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Bromochloromethane	ug/l				1 U		1 U		1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Bromodichloromethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Bromoform	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Bromomethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	2 U	5 U	5 U	5 U		1.0 U		
18/19	21-4	Groundwater	VOA	BTEX (total)	ug/l	1 U	1 U	1 U	1 U	0.5 U										
18/19	21-4	Groundwater	VOA	Carbon disulfide	ug/l	1 U	1 U	1 U	0.57 J	0.5 U	1 U	1 U	10 U	2 U	2 U	10 UJ		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Carbon tetrachloride	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Chlorobenzene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Chloroethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	5 U	5 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Chloroform	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Chloromethane	ug/l	1 U	19	1 U	1 U	0.5 U	1 U	1 U	1 U	5 U	5 U	5 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Chloroprene	ug/l	10 U	10 U													
18/19	21-4	Groundwater	VOA	cis-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 U		1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	cis-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Dibromochloromethane	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Dibromomethane	ug/l	1 U	1 U						2 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Dichlorodifluoromethane	ug/l	1 U	1 U					1 U	1 U	5 U	5 U	5 U		1.0 UJ		
18/19	21-4	Groundwater	VOA	Diethyl ether	ug/l	10 U	10 U													
18/19	21-4	Groundwater	VOA	Ethyl methacrylate	ug/l	5 U	5 U													
18/19	21-4	Groundwater	VOA	Ethylbenzene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Ethylene oxide	ug/l	25 U	25 U													
18/19	21-4	Groundwater	VOA	Hexachlorobutadiene	ug/l	1 U	1 U						2 U	2 U	2 U	4 U		1.0 UJ		
18/19	21-4	Groundwater	VOA	Hexachloroethane	ug/l	10 U	10 U													
18/19	21-4	Groundwater	VOA	Iodomethane	ug/l	5 U	5 U							5 U	5 U					
18/19	21-4	Groundwater	VOA	Isobutyl alcohol	ug/l	100 U	100 U													
18/19	21-4	Groundwater	VOA	Isopropylbenzene	ug/l	1 U	1 U						1 U	2 U	2 U	2 U		1.0 U		
18/19	21-4	Groundwater	VOA	LPAH (total)	ug/l	1 U	1 U													
18/19	21-4	Groundwater	VOA	m,p-Xylene	ug/l	1 U	1 U	1 U				0.9 J		2 U	2 U	2 U		2.0 U	0.50 U	

Summary of Chemicals Detected 1996 through 2010
Groundwater
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration														
						6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	21-4	Groundwater	VOA	Malononitrile	ug/l															
18/19	21-4	Groundwater	VOA	Methacrylonitrile	ug/l	5 U	5 U													
18/19	21-4	Groundwater	VOA	Methyl methacrylate	ug/l	5 U	5 U													
18/19	21-4	Groundwater	VOA	Methyl Tert-Butyl Ether	ug/l									2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Methylene chloride	ug/l	1 U	1 U	1 U	2 U	1 U	2 U	1 U	5 U	5 U	1 U	5 U		1.0 U	0.11 J	
18/19	21-4	Groundwater	VOA	Naphthalene	ug/l	1 U	1 U						2 U	2 U	2 U	2 U		1.0 U		
18/19	21-4	Groundwater	VOA	n-Butylbenzene	ug/l								1 U	2 U	2 U	5 U		1.0 U		
18/19	21-4	Groundwater	VOA	NCPAH (total)	ug/l	1 U	1 U													
18/19	21-4	Groundwater	VOA	Nitrobenzene	ug/l	25 U	25 U													
18/19	21-4	Groundwater	VOA	n-Propylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	o-Xylene	ug/l	1 U	1 U	1 U				1 U		2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Propargyl alcohol	ug/l	1000 U	1000 U													
18/19	21-4	Groundwater	VOA	sec-Butylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Styrene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	tert-Butylbenzene	ug/l								1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Tetrachloroethene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Toluene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	1.1 U	
18/19	21-4	Groundwater	VOA	trans-1,2-Dichloroethene	ug/l	1 U	1 U	1 U	1 U		1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	trans-1,3-Dichloropropene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	trans-1,4-Dichloro-2-butene	ug/l	5 U	5 U							10 U	10 U					
18/19	21-4	Groundwater	VOA	Trichloroethene	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	2 U	2 U	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Trichlorofluoromethane	ug/l	1 U	1 U					1 U	1 U	2 U	2 U	1 U		1.0 U		
18/19	21-4	Groundwater	VOA	Vinyl acetate	ug/l	5 U	5 U							5 U	5 U					
18/19	21-4	Groundwater	VOA	Vinyl chloride	ug/l	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	2 U	2 U	2 UJ	1 U		1.0 U	0.50 U	
18/19	21-4	Groundwater	VOA	Xylenes	ug/l				1 U	0.5 U	1 U		2 U						1.0 U	
18/19	21-4	Groundwater	VOA	Xylenes (total)	ug/l	1 U	1 U	1 U	1 U	0.5 U									1.0 U	

Notes:
Blank cells in the concentration columns indicate that a sample was not collected from that location or the sample was not analyzed for that chemical.
J - estimated value
U - not detected, value shown is the reporting limit.
UJ - estimated reporting limit
ug/l - micrograms per liter

Summary of Chemicals Detected 1996 through 2010
Surface Water
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						3/96	6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	WASW01	Surface Water	DIN	Aluminum	ug/l										1.91	6.66				5.2 5.9	
18/19	WASW01	Surface Water	DIN	Antimony	ug/l										0.1 U	0.143	1 UJ		0.42 UJ	0.090 U 0.090 U	0.05U
18/19	WASW01	Surface Water	DIN	Arsenic	ug/l										0.632	0.264	1 U		0.26 J	0.84 0.78	0.50J
18/19	WASW01	Surface Water	DIN	Barium	ug/l										6.59	5.98	4.02		6.9	7.37 7.41	7.4
18/19	WASW01	Surface Water	DIN	Beryllium	ug/l										0.15 U	0.15 U	1 U		0.043 U	0.020 U 0.020 U	0.030U
18/19	WASW01	Surface Water	DIN	Cadmium	ug/l										0.2 U	0.2 U	1 U		0.57	0.020 U 0.020 U	0.030U
18/19	WASW01	Surface Water	DIN	Calcium	ug/l										12300	17000					
18/19	WASW01	Surface Water	DIN	Chromium	ug/l										1.33	0.471	1 U		1.0 U	0.20 U 0.20 U	0.20U
18/19	WASW01	Surface Water	DIN	Cobalt	ug/l										0.5 U	4.97					
18/19	WASW01	Surface Water	DIN	Copper	ug/l										0.618	0.486	1.09 J		0.52 U	0.10 U 0.10 U	0.2
18/19	WASW01	Surface Water	DIN	Iron	ug/l										50 U	6500					
18/19	WASW01	Surface Water	DIN	Lead	ug/l										0.523	0.1 U	1 UJ		0.075 U	0.030 U 0.030 U	0.030J
18/19	WASW01	Surface Water	DIN	Magnesium	ug/l										3170	3700					
18/19	WASW01	Surface Water	DIN	Manganese	ug/l										29.3	116					
18/19	WASW01	Surface Water	DIN	Mercury	ug/l											0.2 U	0.2 U		0.111 J	0.20 U 0.20 U	0.20UJ
18/19	WASW01	Surface Water	DIN	Nickel	ug/l										0.786	0.8	2 UJ		1.2 J	0.20 U 0.20 U	0.47
18/19	WASW01	Surface Water	DIN	Potassium	ug/l										2250	1900					
18/19	WASW01	Surface Water	DIN	Selenium	ug/l										0.796	0.5 U	0.91 J		0.94 UJ	1.2 U 1.2 U	1.5U
18/19	WASW01	Surface Water	DIN	Silver	ug/l										0.1 U	0.1 U	0.07 UJ		0.085 U	0.030 U 0.030 U	0.030U
18/19	WASW01	Surface Water	DIN	Sodium	ug/l										11400	15000					
18/19	WASW01	Surface Water	DIN	Thallium	ug/l										0.211	0.05 U	0.07 UJ		0.044 U	0.020 U 0.020 U	0.030J
18/19	WASW01	Surface Water	DIN	Vanadium	ug/l										5 U	5 U					
18/19	WASW01	Surface Water	DIN	Zinc	ug/l										9.72	3.33	5 UJ		3.7 J	1.12 0.76 U	0.58J
18/19	WASW02	Surface Water	DIN	Aluminum	ug/l										5.42	1.8				2.0 U	
18/19	WASW02	Surface Water	DIN	Antimony	ug/l										5.15	0.188	1 U		0.072 UJ	0.090 U	0.05J
18/19	WASW02	Surface Water	DIN	Arsenic	ug/l										0.523	0.572	1 UJ		0.43 J	0.71	0.53
18/19	WASW02	Surface Water	DIN	Barium	ug/l										6.77	5.95	6.98		7.3	5.96	6.1
18/19	WASW02	Surface Water	DIN	Beryllium	ug/l										0.15 U	0.15 U	1 U		0.043 U	0.020 U	0.030U

Summary of Chemicals Detected 1996 through 2010
Surface Water
White Alice Landfill
Former Naval Air Complex, Adak Island, Alaska

SWMU	Location Cross Reference	Matrix	Method Class	Analyte	Units	Concentration															
						3/96	6/96	9/96	10/96	12/97	6/98	9/99	11/00	10/01	10/02	10/03	9/04	9/05	9/06	9/08	9/10
18/19	WASW02	Surface Water	DIN	Cadmium	ug/l										0.2 U	0.2 U	1 U		0.37	0.020 U	0.030U
18/19	WASW02	Surface Water	DIN	Calcium	ug/l										15000	14000					
18/19	WASW02	Surface Water	DIN	Chromium	ug/l										1.52	0.452	1 U		1.0 U	0.20 U	0.20U
18/19	WASW02	Surface Water	DIN	Cobalt	ug/l										0.5 U	4.33					
18/19	WASW02	Surface Water	DIN	Copper	ug/l										0.923	1.06	2 U		0.52 U	0.10 U	0.15
18/19	WASW02	Surface Water	DIN	Iron	ug/l										158	240					
18/19	WASW02	Surface Water	DIN	Lead	ug/l										0.12	0.1 U	1 U		0.075 U	0.030 U	0.030J
18/19	WASW02	Surface Water	DIN	Magnesium	ug/l										4930	2900					
18/19	WASW02	Surface Water	DIN	Manganese	ug/l										95.7	13.6					
18/19	WASW02	Surface Water	DIN	Mercury	ug/l											0.2 U	0.2 U		0.0180 UJ	0.20 U	0.20UJ
18/19	WASW02	Surface Water	DIN	Nickel	ug/l										0.888	0.674	0.38 UJ		0.90 J	0.20 U	0.36
18/19	WASW02	Surface Water	DIN	Potassium	ug/l										6640	1400					
18/19	WASW02	Surface Water	DIN	Selenium	ug/l										1.01	0.5 U	1 U		0.42 UJ	1.2 U	1.5J
18/19	WASW02	Surface Water	DIN	Silver	ug/l										0.1 U	0.1 U	1 U		0.085 U	0.030 U	0.030U
18/19	WASW02	Surface Water	DIN	Sodium	ug/l										13500	13000					
18/19	WASW02	Surface Water	DIN	Thallium	ug/l										0.258	0.05 U	1 U		0.044 U	0.020 U	0.030J
18/19	WASW02	Surface Water	DIN	Vanadium	ug/l										5 U	5 U					
18/19	WASW02	Surface Water	DIN	Zinc	ug/l										3.75	2.89	5 U		2.6 J	0.60 U	0.40J
18/19	WASW03	Surface Water	DIN	Aluminum	ug/l										16.1	152				10.8	
18/19	WASW03	Surface Water	DIN	Antimony	ug/l										0.1 U	0.377	1 U		0.41 UJ	0.090 U	0.05J
18/19	WASW03	Surface Water	DIN	Arsenic	ug/l										0.29	0.177	1 U		0.13 J	0.37 B	0.50J
18/19	WASW03	Surface Water	DIN	Barium	ug/l										5.96	3.48	3.43		6.8	4.13	3.58
18/19	WASW03	Surface Water	DIN	Beryllium	ug/l										0.15 U	0.15 U	1 U		0.043 U	0.020 U	0.030U
18/19	WASW03	Surface Water	DIN	Cadmium	ug/l										0.2 U	0.2 U	1 U		0.094 U	0.020 U	0.030J
18/19	WASW03	Surface Water	DIN	Calcium	ug/l										1450	1600					
18/19	WASW03	Surface Water	DIN	Chromium	ug/l										1.05	0.208	1 U		1.0 U	0.20 U	0.20U
18/19	WASW03	Surface Water	DIN	Cobalt	ug/l										0.516	12.1					
18/19	WASW03	Surface Water	DIN	Copper	ug/l										0.871	9.48 J	2.47		1.9 J	0.96	1.25
18/19	WASW03	Surface Water	DIN	Iron	ug/l										108	1900					
18/19	WASW03	Surface Water	DIN	Lead	ug/l										0.52	0.718	1 UJ		1.0 U	0.030 U	0.036
18/19	WASW03	Surface Water	DIN	Magnesium	ug/l										1860	1300					
18/19	WASW03	Surface Water	DIN	Manganese	ug/l										41.2	39.2					
18/19	WASW03	Surface Water	DIN	Mercury	ug/l											0.2 U	0.2 U		0.165 J	0.20 U	0.20UJ
18/19	WASW03	Surface Water	DIN	Nickel	ug/l										0.48	1.22	2 UJ		0.50 J	0.24 U	0.3
18/19	WASW03	Surface Water	DIN	Potassium	ug/l										749	1000 U					
18/19	WASW03	Surface Water	DIN	Selenium	ug/l										0.516	0.5 U	1 U		0.24 UJ	1.2 U	1.5U
18/19	WASW03	Surface Water	DIN	Silver	ug/l										0.189	0.1 U	1 U		0.085 U	0.030 U	0.030U
18/19	WASW03	Surface Water	DIN	Sodium	ug/l										7800	10000					
18/19	WASW03	Surface Water	DIN	Thallium	ug/l										0.253	0.05 U	1 U		0.044 U	0.020 U	0.030J
18/19	WASW03	Surface Water	DIN	Vanadium	ug/l										5 U	5 U					
18/19	WASW03	Surface Water	DIN	Zinc	ug/l										14.9	12.2	6.81		12.4	7.18	6.78J

Notes:
Blank cells in the concentration columns indicate that a sample was not collected from that location or the sample was not analyzed for that chemical.
J - estimated value
U - not detected, value shown is the reporting limit.
UJ - estimated reporting limit
ug/l - micrograms per liter

Summary of Product Thickness Data 2005 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross-Reference	Log Date	Product Type	Product Thickness (ft)
Area 303	MW-303-30	9/23/08	GRO	0.13
Area 303	MW-303-30	9/11/09	GRO	0.03
Former Power Plant Building T-1451	01-118	9/11/09	DRO	0.01
GCI Compound, UST GCI-1	04-202	9/16/06		0.04
GCI Compound, UST GCI-1	04-202	9/19/07	GRO	0.04
GCI Compound, UST GCI-1	04-203	9/19/07	GRO	0.11
GCI Compound, UST GCI-1	04-203	9/20/08	GRO	0.07
GCI Compound, UST GCI-1	04-204	9/10/09	GRO	0.01
Housing Area (Arctic Acres)	03-421	9/12/06		0.13
Housing Area (Arctic Acres)	03-421	9/21/07	DRO	0.29
Housing Area (Arctic Acres)	03-421	9/13/08	DRO	0.12
Housing Area (Arctic Acres)	03-890	9/12/06		0.82
Housing Area (Arctic Acres)	03-890	9/21/07	DRO	0.48
Housing Area (Arctic Acres)	03-890	9/13/08	DRO	0.53
NMCB Building T-1416 Expanded Area	02-300	9/19/07	DRO	0.12
NMCB Building T-1416 Expanded Area	02-300	9/24/08	DRO	0.53
NMCB Building T-1416 Expanded Area	02-300	9/16/09	DRO	0.6
NMCB Building T-1416 Expanded Area	02-300	9/11/10	DRO	0.66
NMCB Building T-1416 Expanded Area	02-455	9/16/09	DRO	0.05
NMCB Building T-1416 Expanded Area	02-461	9/11/10		TRACE
NMCB Building T-1416 Expanded Area	02-463	9/15/06		0.01
NMCB Building T-1416 Expanded Area	02-463	9/19/07	DRO	0.01
NMCB Building T-1416 Expanded Area	02-463	9/16/09	DRO	0.04
NMCB Building T-1416 Expanded Area	02-463	9/11/10	DRO	0.04
NMCB Building T-1416 Expanded Area	02-497	9/11/10	DRO	0.5
NMCB Building T-1416 Expanded Area	02-815	9/24/08	DRO	0.01
NMCB Building T-1416 Expanded Area	02-815	9/11/10	DRO	1.08
NMCB Building T-1416 Expanded Area	02-818	9/22/06		0.16
NMCB Building T-1416 Expanded Area	02-818	9/19/07	DRO	0.07
NMCB Building T-1416 Expanded Area	02-818	9/15/09	DRO	0.01
NMCB Building T-1416 Expanded Area	02-818	9/10/10	DRO	0.66
NMCB Building T-1416 Expanded Area	02-819	9/11/10	DRO	0.03
NMCB Building T-1416 Expanded Area	NMCB-04	9/23/06		1.17
NMCB Building T-1416 Expanded Area	NMCB-04	9/19/07	GRO	0.05
NMCB Building T-1416 Expanded Area	NMCB-04	9/24/08	GRO	0.06
NMCB Building T-1416 Expanded Area	NMCB-04	9/15/09	GRO	0.01
NMCB Building T-1416 Expanded Area	NMCB-04	9/10/10	GRO	0.32
NMCB Building T-1416 Expanded Area	NMCB-05	9/18/07	GRO	0.01
NMCB Building T-1416 Expanded Area	NMCB-05	9/16/09		TRACE
NMCB Building T-1416 Expanded Area	NMCB-05	9/11/10		TRACE
NMCB Building T-1416 Expanded Area	NMCB-07	9/25/06		0.14
NMCB Building T-1416 Expanded Area	NMCB-07	9/19/07	GRO	0.31
NMCB Building T-1416 Expanded Area	NMCB-07	9/24/08	GRO	0.06
NMCB Building T-1416 Expanded Area	NMCB-07	9/15/09	GRO	0.24
NMCB Building T-1416 Expanded Area	NMCB-07	9/11/10	GRO	0.56
NMCB Building T-1416 Expanded Area	NMCB-09	9/16/09	DRO	0.01
NMCB Building T-1416 Expanded Area	NMCB-09	9/10/10	DRO	0.01
NMCB Building T-1416 Expanded Area	NMCB-10	9/17/07	GRO	0.01
NMCB Building T-1416 Expanded Area	NMCB-10	9/16/09	DRO	0.02
NMCB Building T-1416 Expanded Area	NMCB-10	9/10/10	DRO	0.34
NMCB Building T-1416 Expanded Area	NMCB-11	9/14/07	GRO	0.02
NORPAC Hill Seep Area	04-146	9/11/06		0.1
NORPAC Hill Seep Area	04-146	9/22/07	DRO	0.11
NORPAC Hill Seep Area	04-146	9/19/08	DRO	0.06
NORPAC Hill Seep Area	04-146	9/6/10	DRO	0.01
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	9/20/06		0.46
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-145	9/15/08	DRO	0.03
SA 78, Old Transportation Building, USTs 10583, 10584, and ASTs	12-802	9/7/09	DRO	0.01

Summary of Product Thickness Data 2005 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross-Reference	Log Date	Product Type	Product Thickness (ft)
SA 80, Steam Plant 4, USTs 27089 and 27090	04-155	9/12/06	DRO	0.14
SA 80, Steam Plant 4, USTs 27089 and 27090	04-155	9/18/08	DRO	0.1
SA 80, Steam Plant 4, USTs 27089 and 27090	04-155	9/12/09	DRO	0.01
SA 80, Steam Plant 4, USTs 27089 and 27090	04-155	9/8/10	DRO	0.07
SA 80, Steam Plant 4, USTs 27089 and 27090	04-157	9/18/08	DRO	0.17
SA 80, Steam Plant 4, USTs 27089 and 27090	04-157	9/12/09	DRO	0.03
SA 80, Steam Plant 4, USTs 27089 and 27090	04-157	9/8/10	DRO	0.04
SA 80, Steam Plant 4, USTs 27089 and 27090	04-158	9/11/06		0.03
SA 80, Steam Plant 4, USTs 27089 and 27090	04-158	9/11/07	DRO	0.03
SA 80, Steam Plant 4, USTs 27089 and 27090	04-158	9/18/08	DRO	0.04
SA 80, Steam Plant 4, USTs 27089 and 27090	04-158	9/12/09	DRO	0.03
SA 80, Steam Plant 4, USTs 27089 and 27090	04-159	9/12/09	DRO	0.01
SA 80, Steam Plant 4, USTs 27089 and 27090	04-164	9/12/09	DRO	0.01
SA 80, Steam Plant 4, USTs 27089 and 27090	04-164	9/8/10	DRO	0.01
SA 80, Steam Plant 4, USTs 27089 and 27090	04-173	9/11/06		0.74
SA 80, Steam Plant 4, USTs 27089 and 27090	04-173	9/11/07	DRO	0.2
SA 80, Steam Plant 4, USTs 27089 and 27090	04-173	9/18/08	DRO	0.38
SA 80, Steam Plant 4, USTs 27089 and 27090	04-173	9/12/09	DRO	0.03
SA 80, Steam Plant 4, USTs 27089 and 27090	04-173	9/8/10	DRO	0.01
SA 80, Steam Plant 4, USTs 27089 and 27090	SP4-2	9/12/06	DRO	0.01
SA 80, Steam Plant 4, USTs 27089 and 27090	SP4-3	9/12/09	DRO	0.01
SA 82, P-80/P-81 Buildings, UST 10587 and AST 10333	12-180	9/13/06		0.25
SA 82, P-80/P-81 Buildings, UST 10587 and AST 10333	12-194	9/13/07		TRACE
SA 88, P-70 Energy Generator, UST 10578	12-162	9/16/06		0.75
SA 88, P-70 Energy Generator, UST 10578	12-163	9/16/06		0.29
SA 88, P-70 Energy Generator, UST 10578	12-163	9/16/08	DRO	0.02
SA 88, P-70 Energy Generator, UST 10578	12-197	9/16/06		0.61
SA 88, P-70 Energy Generator, UST 10578	12-198	9/16/06		0.68
SA 88, P-70 Energy Generator, UST 10578	12-198	9/14/07	DRO	0.14
SA 88, P-70 Energy Generator, UST 10578	12-198	9/16/08	DRO	0.92
SA 88, P-70 Energy Generator, UST 10578	12-198	9/7/10	DRO	0.01
SA 88, P-70 Energy Generator, UST 10578	12-252	9/13/06		0.19
SA 88, P-70 Energy Generator, UST 10578	12-252	9/16/08	DRO	0.03
SA 88, P-70 Energy Generator, UST 10578	12-252	9/8/09		TRACE
SA 88, P-70 Energy Generator, UST 10578	12-253	9/16/08	DRO	0.01
SA 88, P-70 Energy Generator, UST 10578	12-253	9/7/10		TRACE
South of Runway 18-36 Area	02-231	9/10/10	DRO	0.03
South of Runway 18-36 Area	02-518	9/12/09	DRO	0.01
South of Runway 18-36 Area	18/36-01	9/12/09		TRACE
South of Runway 18-36 Area	18/36-03	9/10/10	DRO	0.01
South of Runway 18-36 Area	18/36-05	9/10/10		TRACE
South of Runway 18-36 Area	28-804	9/10/08	DRO	0.07
South of Runway 18-36 Area	AS-1	9/19/06		0.28
South of Runway 18-36 Area	AS-1	9/11/07	DRO	0.15
South of Runway 18-36 Area	E-207 (AMW-207)	9/29/07	DRO	0.02
South of Runway 18-36 Area	E-207 (AMW-207)	9/10/10	DRO	0.01
South of Runway 18-36 Area	E-209 (AMW-209)	9/29/07	DRO	0.4
South of Runway 18-36 Area	E-213 (AMW-213)	9/29/07	DRO	0.08
South of Runway 18-36 Area	E-215	9/14/06		0.19
South of Runway 18-36 Area	E-215	9/10/08	DRO	0.16
South of Runway 18-36 Area	E-215	9/10/10	DRO	0.29
South of Runway 18-36 Area	E-216	9/14/06		0.17
South of Runway 18-36 Area	E-216	9/29/07	DRO	0.05
South of Runway 18-36 Area	E-216	9/10/08	DRO	0.04
South of Runway 18-36 Area	E-216	9/12/09	DRO	0.16
South of Runway 18-36 Area	E-216	9/10/10	DRO	0.35
South of Runway 18-36 Area	E-217 (AMW-217)	9/29/07	DRO	0.15
South of Runway 18-36 Area	E-217 (AMW-217)	9/10/08	DRO	0.15

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Site ID	Location Cross-Reference	Log Date	Product Type	Product Thickness (ft)
South of Runway 18-36 Area	RW-18/36-01	9/14/06		0.04
South of Runway 18-36 Area	RW-18/36-01	9/10/08	DRO	0.1
South of Runway 18-36 Area	RW-18/36-04	9/10/08	DRO	0.02
South of Runway 18-36 Area	RW-18/36-04	9/10/10	DRO	0.22
South of Runway 18-36 Area	Z 3-2	9/12/09	DRO	0.17
South of Runway 18-36 Area	Z 3-2	9/10/10	DRO	0.15
SWMU 14, Old Pesticide Disposal Area	01-153	9/22/07	GRO	0.03
SWMU 17, Power Plant Area	05-375	9/9/10	DRO	0.01
SWMU 17, Power Plant Area	HC-2	9/22/07	DRO	0.03
SWMU 17, Power Plant Area	PP-05	9/21/07	DRO	0.17
SWMU 17, Power Plant Area	PP-05	9/19/08	DRO	0.03
SWMU 17, Power Plant Area	R-1	9/9/10	DRO	0.01
SWMU 17, Power Plant Area	R-2	9/8/09		TRACE
SWMU 17, Power Plant Area	R-2	9/9/10		TRACE
SWMU 17, Power Plant Area	R-6	9/16/06		0.03
SWMU 17, Power Plant Area	R-6	9/9/09	DRO	0.01
SWMU 17, Power Plant Area	R-6	9/9/10	DRO	0.01
SWMU 55, Public Works Transportation Department Waste Storage Area	55-146	9/6/10		TRACE
SWMU 58/SA 73, Heating Plant 6	12-105	9/7/09	DRO	0.09
SWMU 58/SA 73, Heating Plant 6	12-108	9/26/08	DRO	0.01
SWMU 58/SA 73, Heating Plant 6	12-110	9/21/06		1.18
SWMU 58/SA 73, Heating Plant 6	12-110	9/19/07	DRO	0.47
SWMU 58/SA 73, Heating Plant 6	12-110	9/26/08	DRO	1.09
SWMU 58/SA 73, Heating Plant 6	12-114	9/7/09		TRACE
SWMU 58/SA 73, Heating Plant 6	12-121	9/21/06		0.15
SWMU 58/SA 73, Heating Plant 6	12-121	9/19/07		TRACE
SWMU 58/SA 73, Heating Plant 6	12-121	9/15/08	DRO	0.02
SWMU 58/SA 73, Heating Plant 6	12-121	9/8/10	DRO	0.01
SWMU 58/SA 73, Heating Plant 6	12-125	9/7/09	DRO	0.01
SWMU 58/SA 73, Heating Plant 6	12-203	9/21/06		2.47
SWMU 58/SA 73, Heating Plant 6	12-203	9/19/07	DRO	0.83
SWMU 58/SA 73, Heating Plant 6	12-203	9/15/08	DRO	1.43
SWMU 58/SA 73, Heating Plant 6	12-203	9/7/09	DRO	0.81
SWMU 58/SA 73, Heating Plant 6	12-601	9/15/08	DRO	0.01
SWMU 58/SA 73, Heating Plant 6	12-601	9/7/09	DRO	0.01
SWMU 60, Tank Farm A	LC5A	9/15/07		0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-101	9/14/10	GRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-102	9/15/06		0.21
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-102	9/21/07	DRO	3.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-109	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-518	9/15/06		1.55
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-518	9/24/07	DRO	0.23
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-518	9/23/08	DRO	0.13
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-518	9/14/10	GRO	0.09
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-898	9/4/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	CTO-124-MW14	9/4/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	CTO-124-MW15	9/23/08	DRO	0.21
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	CTO-124-MW15	9/14/10	GRO	0.34
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-1	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-10	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-11	9/15/06		1.35
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	9/27/06		0.31
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	9/24/07	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-12	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-2	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-2	9/14/10	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-3	9/14/06		0.76
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-3	9/21/07	DRO	0.19
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-3	9/23/08	DRO	0.36

Summary of Product Thickness Data 2005 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross-Reference	Log Date	Product Type	Product Thickness (ft)
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-4	9/21/07	DRO	0.02
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-5	9/23/08	DRO	0.09
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-9	9/21/07		TRACE
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	HMW-303-9	9/14/10	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-1	9/24/07	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-10	9/24/07	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-10	9/23/08	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-10	9/14/10	DRO	0.02
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-12	9/14/10	DRO	0.04
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-14	9/24/07	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-5	9/14/10	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-7	9/24/07	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	MW-303-8	9/14/10	DRO	0.06
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-11	9/24/07	DRO	0.02
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-11	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-12	9/15/06		0.31
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-12	9/24/07	DRO	0.04
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13	9/14/10		TRACE
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13/NW-2	9/22/07	DRO	TRACE
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-13/NW-2	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-14/NW-3	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15	9/14/10	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15/NW-4	9/24/07		0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15/NW-4	9/23/08	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-15/NW-4	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-4	9/14/06		0.8
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-4	9/24/07	DRO	0.07
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-4	9/23/08	DRO	0.08
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-4	9/14/10	DRO	0.02
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-7	9/21/07	DRO	0.04
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-7	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-7	9/14/10	DRO	0.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-9	9/21/07	DRO	2.01
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	RW-303-9	9/9/09	DRO	0.01
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104	9/22/06		0.05
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-895	9/4/09		TRACE
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-107-2	9/4/09	GRO	0.01
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	HMW-146-3	9/4/09	GRO	0.01
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	9/22/08	GRO	0.06
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	MRP-MW3	9/13/10	GRO	0.05
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	RW-102-4	9/13/10	DRO	0.01
Tanker Shed, UST 42494	04-175	9/10/07	DRO	0.01
Tanker Shed, UST 42494	04-176	9/14/06		0.31
Tanker Shed, UST 42494	04-178	9/14/06		0.01
Tanker Shed, UST 42494	04-303	9/3/09	DRO	0.01
Tanker Shed, UST 42494	04-303	9/2/10	DRO	0.01
Tanker Shed, UST 42494	04-304	9/11/07	DRO	0.01
Tanker Shed, UST 42494	04-306	9/18/06		0.05
Tanker Shed, UST 42494	04-306	9/10/07	DRO	0.03
Tanker Shed, UST 42494	04-309	9/14/06		1.38
Tanker Shed, UST 42494	04-309	9/11/07	DRO	0.14
Tanker Shed, UST 42494	04-309	9/17/08	DRO	0.14
Tanker Shed, UST 42494	04-309	9/2/10	DRO	0.01
Tanker Shed, UST 42494	04-311	9/17/08	DRO	0.01
Tanker Shed, UST 42494	04-312	9/3/09	DRO	0.01

Notes:

Only data for sites and locations where free product was detected from October 2005 through September 2010 are included on this table.

ft - feet

DRO - diesel range organics

GRO - gasoline range organics

Recovered Product Thickness Summary 2006 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Refrence	9/06			10/06 - 9/07				10/07 - 9/08				10/08 - 9/09				10/09 - 09/10			
		Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found
NMCB Expanded Area	02-300	0.07	0.59	0.42	0	1.91	0.25	8	0	0.25	0.12	11					0.01	1.35	0.58	4
	02-455																0	0	0	0
	02-463																0	0.15	0.04	1
	02-497	0	0.29	0.08	0	0	0	0	0	0.18	0.02	3								
	02-815	0	0.63	0.36	0	0.5	0.05	3	0	0.02	0	2								
	02-818	0	0.43	0.24	0	0.54	0.08	8	0	0.03	0.01	7					0	0.40	0.11	2
	NMCB-04[a]				0	0.46	0.31	3	0.04	0.26	0.15	2								
	NMCB-07	0.17	0.47	0.37	0	1.03	0.22	10	0	0.23	0.09	10					0	0.87	0.22	1
	NMCB-08	0	0.09	0.04	0	0.71	0.24	11	0	0.32	0.04	6								
	NMCB-09	0	0	0	0	0	0	0	0	0.01	0	2					0	0	0	0
	NMCB-10																0	0.58	0.15	1
South of Runway 18-36 Area	02-231	0	0.37	0.12	0	0.23	0.09	11	0	0.23	0.06	8	0	0.25	0.08	6	0	0.04	0.009	5
	AS-1[a]				0	0	0	0	0	0	0	0	0	0	0	0				
	18/36-01	0	0	0	0	0.02	0	1	0	0.03	0	3								
	18/36-02	0	0	0	0	0	0	0	0	0	0	0								
	18/36-03	0	0	0	0	0.03	0	1	0	0	0	0								
	18/36-R1[1/]	0	0	0	0	0.05	0.01	3	0	0.01	0	1	0	0	0	0	0	0	0	0
	18/36-R2[1/]	0	0	0	0	0.3	0.05	3	0	0.02	0	1	0	0	0	0	0	0	0	0
	18/36-R3[1/]	0	0	0	0	0.02	0	3	0	0.05	0.01	3	0	0.02	0	1	0	0	0	0
	18/36-R4[1/]	0	0	0	0	0.02	0	2	0	0.01	0	2	0	0	0	0	0	0.01	0.0008	1
	18/36-R5[1/]	0	0	0	0	0.04	0	2	0	0.03	0	3	0	0.01	0	1	0	0	0	0
	18/36-R6[1/]	0	0	0	0	0.05	0.01	4	0	0.03	0.01	7	0	0.02	0	3	0	0	0	0
	18/36-R7[1/]	0	0	0	0	0.06	0.01	4	0	0.02	0.01	8	0	0.03	0	4	0	0	0	0
	18/36-R8[1/]	0	0	0	0	0.03	0	2	0	0.04	0.01	4	0	0	0	0	0	0	0	0
	E-207	0	0.2	0.07	0	0.25	0.07	10	0	0.86	0.18	9	0	0.37	0.08	7	0	0.43	0.12	10
	E-209	0	0.14	0.04	0	1.15	0.37	9	0	0.77	0.24	8	0	1.75	0.22	7	0	0.70	0.21	9
	E-213	0	0	0	0	0.06	0.01	4	0	0.04	0.01	4	0	0.05	0.01	2				
	E-215	0	0.23	0.13	0	0.52	0.06	3	0	0.01	0	1	0	0.03	0	1				
	E-216	0.05	1.11	0.54	0	1.72	0.24	9	0	0.22	0.12	11	0	0.32	0.13	10	0	1.78	0.33	10
	E-217	0	0.03	0.01	0	0.03	0	2	0	0.31	0.04	7	0	0.02	0	2	0	0.03	0.007	4
	RW-18/36-01	0	0.15	0.07	0	0.04	0	2	0	0.45	0.05	5					0	0.26	0.02	3
	RW-18/36-02	0	0	0	0	0	0	0	0	0.02	0	1								
	RW-18/36-03	0	0	0	0	0	0	0	0	0.06	0.01	4								
	RW-18/36-04	0	0.01	0.01	0	0.2	0.02	2	0	0.03	0.01	3	0	0.02	0	4				
	RW-18/36-05	0	0	0	0	0	0	0	0	0	0	0								
	RW-18/36-06	0	0	0	0	0.02	0	1	0	0	0	0								
	RW-18/36-07	0	0	0	0	0	0	0	0	0	0	0								
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104[a]				0	0	0	0	0	0	0	0	0	0	0	0				
	03-696	0	0.02	0.01	0	0.07	0.01	2	0	0	0	0								
	HMW-102-1	0	2.7	0.68	0	0.01	0	1	0	0.01	0	2								
	HMW-139-2	0	0.06	0.02	0	0.23	0.08	6	0	0.03	0	1	0	0.02	0	2				
	HMW-146-1	0	0	0	0	0	0	0	0	0	0	0								
	MW-102-4	0	0	0	0	0	0	0	0	0	0	0								
	MW-107-11	0	0.83	0.21	0	0.31	0.03	3	0	0.01	0	1								
	MW-134-10	0	0	0	0	0	0	0	0	0	0	0								
	MW-134-8	0	0	0																
	RW-102-4	0	0.02	0.02	0	0.02	0	2	0	0.06	0.01	2								
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-101	0	0.02	0.01	0	0.12	0.02	6	0	0.26	0.06	5	0	1.26	0.14	5	0	0.04	0.005	3
	03-102	0.07	1.1	0.55	0	1.68	0.32	10	0	1.62	0.22	6	0	1.78	0.21	6	0	0.17	0.02	2
	03-107	0	0.77	0.19	0	0.21	0.02	2	0	0.01	0	1	0	0	0	0				
	03-518	1.36	1.89	1.65	0	1.49	0.28	8	0	0.12	0.03	4	0	0.22	0.03	5	0	0.15	0.03	4
	HMW-303-1	0	0	0	0	0.05	0	1	0	0	0	0								
	HMW-303-10	0	0.31	0.08	0	0	0	0	0	0	0	0								
	HMW-303-11	0.6	2.03	1.34	0	0.93	0.19	7	0	0.03	0	2	0	0.03	0	3	0	0.03	0.003	1
	HMW-303-12[a]				0	0	0	0	0	0	0	0	0	0	0	0				
	HMW-303-2	0	0.32	0.08	0	0.03	0	1	0	0.02	0	1	0	0	0	0				
	HMW-303-3	0.39	1.96	1.32	0	0.9	0.26	9	0	0.48	0.09	6	0	0.47	0.1	5	0	0.13	0.02	2
	HMW-303-4	0	0.05	0.01	0	0.03	0	1	0	0.01	0	1								
	HMW-303-5	0	0.68	0.26	0	0.82	0.12	5	0	0.03	0	1	0	0	0	0				
	HMW-303-9	0	0.19	0.10	0	0.35	0.03	2	0	0.08	0.01	4					0	0	0	0
	CTO124-MW14	0	0	0	0	0	0	0	0	0	0	0								
	CTO124-MW15	0	0.98	0.40	0	0.34	0.09	7	0	0.72	0.09	7	0	1.18	0.11	6				
	MW-303-1	0	0.05	0.01	0	0	0	0	0	0.07	0.01	2								

Recovered Product Thickness Summary 2006 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Refrence	9/06			10/06 - 9/07				10/07 - 9/08				10/08 - 9/09				10/09 - 09/10			
		Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found	Minimum Product Thickness (feet)	Maximum Product Thickness (feet)	Average Product Thickness (feet)	Total Months Product Found
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex (cont.)	MW-303-10	0	0.3	0.08	0	0.03	0.01	5	0	0.03	0	2	0	0	0	0				
	MW-303-12	0	0.59	0.17	0	0.42	0.08	6	0	0.18	0.02	3	0	0.29	0.04	4	0	0	0	0
	MW-303-18	0	0	0	0	0.01	0	1	0	0	0	0								
	MW-303-5	0	0.04	0.01	0	0.05	0.01	2	0	0.03	0.01	4	0	0.04	0	2				
	MW-303-7	0	1.02	0.26	0	0.04	0	1	0	0.02	0	1								
	MW-303-8	0	1.63	0.46	0	0.05	0.01	2	0	0.01	0	2	0	0.03	0	2				
	RW-303-11	0	0.01	0.01	0	0.01	0	1	0	0.03	0	1					0	0.02	0.002	1
	RW-303-12	0	0.6	0.28	0	0.03	0	1	0	0.01	0	1	0	0.03	0	2				
	RW-303-13	0	0	0	0	0.02	0	2	0	0	0	0					0	0	0	0
	RW-303-14	0	0.01	0.003	0	0.01	0	1	0	0	0	0								
	RW-303-15	0	0	0	0	0.44	0.13	8	0	0.32	0.09	7	0	0.35	0.13	10	0	0.28	0.10	7
	RW-303-16	0	0	0	0	0.01	0	1	0	0.05	0	1								
	RW-303-4	0.22	0.79	0.51	0	0.32	0.08	5	0	0.26	0.06	5	0	0	0	0	0	0.15	0.02	3
	RW-303-6	0	0.1	0.03	0	0	0	0	0	0	0	0								
	RW-303-7	0	0.07	0.04	0	0.07	0.02	4	0	0.02	0	2	0	0.01	0	1				
	RW-303-9	0	0.01	0.003	0	0	0	0	0	0	0	0								
	SWMU62-R1[1]				0	0.02	0	3	0	0.01	0	1	0	0.01	0	1	0	0.01	0.0008	1
	SWMU62-R2[1]				0	0.04	0.01	5	0	0.03	0.01	5	0	0.02	0	5	0	0.02	0.0025	2
	SWMU62-R3[1]				0	0.46	0.12	11	0.01	0.26	0.09	12	0	0.13	0.05	9	0.08	0.18	0.12	12
	SWMU62-R4[1]	0.05	0.05	0.05	0	0.18	0.04	7	0	0.18	0.06	10	0	0.1	0.04	11	0.03	0.12	0.08	12
	SWMU62-R5[1]	0	0	0	0	0.09	0.01	3	0	0.02	0	3	0	0.03	0	7	0	0.02	0.01	9
	SWMU62-R6[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GCI Compound, UST GCI-1	04-202[a]				0	0.02	0.01	4	0	0	0	0	0	0	0	0	0	0	0	0
NORPAC Hill Seep Area	04-146[a]				0	0.13	0.04	4	0	0	0	0	0	0.12	0.02	4	0	0.01	0.001	1
SA78 - Old Transportation Building, USTs 10583 and 10584, and ASTs	12-145[a]				0	0.06	0.04	4	0.02	0.04	0.03	2	0	0.02	0.003	2	0	0	0	0
SA80 - Steam Plant 4, USTs 27089 and 27090	04-155[a]				0.32	0.41	0.35	3	0	0	0	0	0	0.14	0.01	3	0	0.02	0.005	4
	04-157												0	1.34	0.25	7	0	0.56	0.13	9.00
	04-158[a]				0	0.75	0.23	4	0	0.01	0.005	1	0	0.37	0.11	6	0	0.37	0.08	6.00
	04-164												0	0	0	0	0	0	0	0
	04-173[a]				0.22	0.31	0.27	5	0	0	0	0	0	0.1	0.012	3	0	0.07	0.02	3.00
	SP4-2[a]				0	0.02	0.013	2	0	0.01	0.005	1	0	0.01	0.001	1	0	0	0	0
SA82 - P-80/P-81 Buildings	12-180[a]				0	0.02	0.01	2	0	0	0	0	0	0.04	0.01	2	0	0	0	0
SA88 - P-70 Energy Generator, UST10578	12-162[a]				0	0.2	0.07	3	0	0	0	0	0	0	0	0	0	0	0	0
	12-163[a]				0	0.04	0.02	2	0	0.16	0.08	1	0	0	0	0	0	0.03	0.004	2
	12-197[a]				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12-198[a]				0.26	0.48	0.39	5	0.27	0.41	0.34	2	0	0.26	0.15	10	0	0.31	0.10	6.00
	12-252[a]				0	0.06	0.02	1	0	0	0	0	0	0	0	0	0	0.02	0.002	1
SWMU 14, Old Pesticide Storage and Disposal Area	01-153												0	0	0	0	0	0	0	0
SWMU 17, Power Plant 3	PP-05												0	0.43	0.04	2	0	0.02	0.004	2
	HC-02												0	0	0	0	0	0	0	0
SWMU58 and SA73, Heating Plant 6	12-110[a]				1.11	1.11	1.11	1												
	12-121[a]				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12-203[a]				0.29	1.53	0.69	5	0.25	0.37	0.31	2	0	0.41	0.24	10	0.01	1.00	0.25	10.00
Tanker Shed, UST 42494	04-176[a]				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	04-306[a]				0	0.02	0.01	3	0	0	0	0	0	0.02	0.002	1	0	0	0	0
	04-309[a]				0	0.14	0.047	1	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
[1] Recovery Sumps
[a] Product measurements were not conducted through the twelve month time periods of 10/06 to 9/07 and 10/07 to 9/08, but was instead conducted 5/07 to 10/07 and 11/07 to 12/07.
Locations that contain blank cells had no recovery information for that time period

Recovered Product Volume Summary 2006 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Refrence	9/06	10/06 - 9/07				10/07 - 9/08				10/08 - 9/09				10/09 - 9/10				9/06 - 9/10
		Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)
NMCB Expanded Area	02-300	5.29	0	0.54	0.16	1.91	0	0.92	0.19	2.25[c]					0	0.53	0.17	0.69[c]	10.14
	02-455														0	0	0	0	0.00
	02-463														0	0.21	0.05	0.21	0.21
	02-497	0	0	0	0	0	0	0.11	0	0.11					0.11	0.11	0.11	0.11[b]	0.22
	02-815	0.77	0	0.21	0.04	0.44	0	0.22	0.02	0.22					0.24	0.24	0.24	0.24[b]	1.67
	02-818	1.16	0	0.2	0.05	0.63	0	0	0	0					0	0.39	0.10	0.39[c]	2.18
	NMCB-04[a]	1[b]	0	0.15	0.07	0.33	0.01	0.2	0.105	0.21									1.54
	NMCB-07	4.2	0	0.59	0.23	2.78	0	0.37	0.1	1.17					0	1.06	0.27	1.06[c]	9.21
	NMCB-08	1.99	0.15	0.76	0.43	5.11	0	0.22	0.03	0.39									7.49
	NMCB-09	0	0	0	0	0	0	0	0	0					0	0	0	0	0.00
	NMCB-10														0	0.18	0.05	0.18	0.18
	Total Volume of Recovered Product	14.41	NA	NA	NA	11.2	NA	NA	NA	4.35					NA	NA	NA	2.88	33.56[f]
South of Runway 18-36 Area	02-231	0.07	0.01	0.28	0.14	1.67	0	0.29	0.05	0.65	0	0.11	0.03	0.4	0	0	0	0	2.79
	AS-1[a]		0	0	0	0	0	0	0	0	0	0	0	0					0.00
	18/36-01	0	0	0	0	0	0	0	0	0									0.00
	18/36-02	0	0	0	0	0	0	0	0	0									0.00
	18/36-03	0	0	0	0	0	0	0	0	0									0.00
	18/36-R1[1]	0	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0.01
	18/36-R2[1]	0	0	0.09	0.01	0.09	0	0	0	0	0	0	0	0	0	0	0	0	0.09
	18/36-R3[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	18/36-R4[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	18/36-R5[1]	0	0	0	0	0	0	0.23	0.02	0.23	0	0	0	0	0	0	0	0	0.23
	18/36-R6[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	18/36-R7[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	18/36-R8[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	E-207	2.61	0	0.38	0.14	1.62	0	0.74	0.16	1.97	0	0.24	0.05	0.59	0	0.37	0.10	1.17	7.96
	E-209	0.01	0	0.81	0.22	2.69	0	0.67	0.18	2.2	0	0.91	0.13	1.52	0	0.95	0.25	2.99	9.41
	E-213	0	0	0	0	0	0	0	0	0	0	0	0	0					0.00
	E-215	0.26	0	0.16	0.02	0.21	0	0	0	0	0	0	0	0					0.47
	E-216	3.87	0	0.48	0.17	1.91	0	0.28	0.13	1.51	0	0.29	0.12	1.4	0	0.65	0.25	3.03	11.72
	E-217	0	0	0	0	0	0	0.2	0.02	0.2	0	0	0	0	0	0	0	0	0.20
	RW-18/36-01	0.68	0	0	0	0	0	0.06	0.01	0.1					0	0.44	0.04	0.44	1.22
	RW-18/36-02	0	0	0	0	0	0	0	0	0									0.00
	RW-18/36-03	0	0	0	0	0	0	0	0	0									0.00
	RW-18/36-04	0	0	0	0	0	0	0	0	0	0	0	0	0					0.00
	RW-18/36-05	0	0	0	0	0	0	0	0	0									0.00
	RW-18/36-06	0	0	0	0	0	0	0	0	0									0.00
	RW-18/36-07	0	0	0	0	0	0	0	0	0									0.00
	Total Volume of Recovered Product	7.5	NA	NA	NA	8.2	NA	NA	NA	6.86	NA	NA	NA	3.91	NA	NA	NA	7.63	34.10
SWMU 62, New Housing Fuel Leak, Sandy Cove Housing 102, 107, and 146 Area	03-104[a]		0	0	0	0	0	0	0	0	0	0	0	0					0.00
	03-696	0	0	0	0	0	0	0	0	0									0.00
	HMW-102-1	0.22	0	0	0	0	0	0	0	0									0.22
	HMW-139-2	0	0	0.24	0.07	0.83	0	0	0	0	0	0	0	0					0.83
	HMW-146-1	0	0	0	0	0	0	0	0	0									0.00
	MW-102-4	0	0	0	0	0	0	0	0	0									0.00
	MW-107-11	1.23	0	0.27	0.03	0.3	0	0	0	0									1.53
	MW-134-10	0	0	0	0	0	0	0	0	0									0.00
	MW-134-8	0																	0.00
	MW-187-3[g]	0																	0.00
	RW-102-4	0	0	0	0	0	0	0	0	0									0.00

Recovered Product Volume Summary 2006 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Refrence	9/06	10/06 - 9/07				10/07 - 9/08				10/08 - 9/09				10/09 - 9/10				9/06 - 9/10
		Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)
SWMU 62, New Housing Fuel Leak, Eagle Bay Housing Complex	03-101	0	0	0.63	0.09	1.11	0	0.2	0.03	0.41	0	1.66	0.16	1.88	0	0	0	0	3.40
	03-102	7.03	0	0.75	0.18	2.21	0	1.32	0.18	2.11	0	1.57	0.2	2.41	0	0.09	0.01	0.09	13.85
	03-107	0	0	0.06	0.01	0.06	0	0	0	0	0	0	0	0					0.06
	03-518	13.42	0	1.23	0.38	4.56	0	0.21	0.04	0.43	0	0.2	0.02	0.23	0	0.11	0.02	0.22	18.86
	HMW-303-1	0	0	0	0	0	0	0	0	0									0.00
	HMW-303-10	0.04	0	0	0	0	0	0	0	0									0.04
	HMW-303-11	10.05	0	1.34	0.37	4.49	0	0.22	0.02	0.22	0	0	0	0	0	0	0	0	14.76
	HMW-303-12[a]		0	0	0	0	0	0	0	0	0	0	0	0					0.00
	HMW-303-2	0.2	0	0	0	0	0	0	0	0	0	0	0	0					0.20
	HMW-303-3	17.1	0	1.19	0.32	3.85[c]	0	0.29	0.08	0.99	0	0.27	0.06	0.7	0	0.11	0.01	0.16	22.80
	HMW-303-4	0	0	0	0	0	0	0	0	0									0.00
	HMW-303-5	3.65	0	1.23	0.25	2.96	0	0	0	0	0	0	0	0					6.61
	HMW-303-9	0.64	0	0.3	0.05	0.61	0	0.12	0.01	0.12					0	0	0	0	1.37
	CTO124-MW-14	0	0	0	0	0	0	0	0	0									0.00
	CTO124-MW-15	0	0	0	0	0	0	0	0	0	0	0.87	0.07	0.87					0.87
	MW-303-1	0	0	0	0	0	0	0	0	0									0.00
	MW-303-10	0.2	0	0.33	0.03	0.33	0	0	0	0	0	0	0	0					0.53
	MW-303-12	0.34	0	0.44	0.07	0.86	0	0.06	0.01	0.06	0	0.22	0.02	0.29	0	0	0	0	1.55
	MW-303-18	0	0	0	0	0	0	0	0	0									0.00
	MW-303-5	0	0	0	0	0	0	0	0	0	0	0	0	0					0.00
	MW-303-7	0	0	0	0	0	0	0	0	0									0.00
	MW-303-8	2.24	0	0	0	0	0	0	0	0	0	0	0	0					2.24
	RW-303-11	0	0	0	0	0	0	0.01	0	0.01					0	0	0	0	0.01
	RW-303-12	1.6	0	0	0	0	0	0	0	0	0	0	0	0					1.60
	RW-303-13	0	0	0	0	0	0	0.25	0.02	0.25					0	0	0	0	0.25
	RW-303-14	0	0	0	0	0	0	0	0	0									0.00
	RW-303-15	0	0	0.33	0.1	1.24	0	0.29	0.07	0.79	0	0.21	0.07	0.87	0	0.61	0.15	1.74	4.64
	RW-303-16	0	0	0	0	0	0	0	0	0									0.00
	RW-303-4	3.11[c]	0	0.19	0.05	0.65	0	0.3	0.08	0.95	0				0	0.41	0.03	0.41	5.12
	RW-303-6	0	0	0	0	0	0	0	0	0									0.00
	RW-303-7	0	0	0	0	0	0	0	0	0	0	0	0	0					0.00
	RW-303-9	0	0	0	0	0	0	0	0	0									0.00
	SWMU62-R1[1]	0	0	0.01	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0.01
	SWMU62-R2[1]	0	0	0.01	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0.01
	SWMU62-R3[1]	0	0	0.56	0.19	2.27	0	0.39	0.15	1.86	0	0.18	0.03	0.41	0.07	1.11	0.39	4.66	9.20
	SWMU62-R4[1]	0	0	0.24	0.04	0.53	0	0.38	0.08	0.93	0	0.55	0.05	0.64	0.00	1.11	0.35	4.15	6.25
	SWMU62-R5[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	SWMU62-R6[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Total Volume of Recovered Product	61.07	NA	NA	NA	26.88	NA	NA	NA	9.13	NA	NA	NA	8.3	NA	NA	NA	11.43	116.81
GCI Compound, UST GCI-1	04-202[a]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Housing Area (Artic Acres)	03-890	0.53[b]								1.2[b]									1.73
NORPAC Hill Seep Area	04-146[a]		0	0.09	0.04	0.18[c]	0	0	0	0	0	0.08	0.01	0.1	0	0	0	0	0.28
SA78 - Old Transportation Building, USTs 10583 and 10584, and ASTs	12-145[a]		0	0	0	0	0	0	0	0	0	0.01	0.001	0.01	0	0	0	0	0.01
SA80 - Steam Plant 4, USTs 27089 and 27090	04-155[a]		0	0.18	0.04	0.19	0	0	0	0	0	0.03	0.003	0.03	0	0	0	0	0.22
	04-157										0	0.85	0.18	2.2	0	0.36	0.11	1.01	3.21
	04-158[a]		0	0.15	0.06	0.29	0	0	0	0	0	0.19	0.05	0.6	0	0.47	0.07	0.81	1.70
	04-164										0	0	0	0	0	0	0	0	0.00
	04-173[a]	1.5[b]	0	0.61	0.19	0.97[c]	0	0.56	0.19	0.56[b]	0	0.02	0.002	0.02	0	0.13	0.02	0.20	3.25
	SP4-2[a]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Total Volume of Recovered Product	1.5	NA	NA	NA	1.45	NA	NA	NA	0.56	NA	NA	NA	2.85	NA	NA	NA	2.02	8.38

Recovered Product Volume Summary 2006 through 2010
Former Naval Air Complex, Adak Island, Alaska

Site ID	Location Cross Refrence	9/06	10/06 - 9/07				10/07 - 9/08				10/08 - 9/09				10/09 - 9/10				9/06 - 9/10
		Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Minimum Monthly Volume of Recovered Product (gallons)	Maximum Monthly Volume of Recovered Product (gallons)	Average Monthly Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)	Total Volume of Recovered Product (gallons)
SA82 - P-80/P-81 Buildings[d]	12-180[a]	0.40[b]	0	0	0	0	0	0	0	0	0	0.01	0.001	0.01	0	0	0	0	0.41
SA88 - P-70 Energy Generator, UST10578	12-162[a]	0.25[b]	0	0.11	0.03	0.14	0	0	0	0	0	0	0	0	0	0	0	0	0.39
	12-163[a]		0	0	0	0	0.13	0.13	0.13	0.26	0	0	0	0	0	0	0	0	0.26
	12-197[a]	0.50[b]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.50
	12-198[a]	0.25[b]	0	0.6	0.22	1.12[c]	0	1.2	0.47	1.42[c]	0	0.23	0.07	0.84	0	0.62	0.21	2.06	5.69
	12-252[a]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Total Volume of Recovered Product	1	NA	NA	NA	1.26	NA	NA	NA	1.68	NA	NA	NA	0.84	NA	NA	NA	2.06	6.84
SWMU 14, Old Pesticide Storage and Disposal Area	01-153		0.5	0.5	0.5	0.5[b]					0	0	0	0	0	0	0	0	0.50
SWMU 17, Power Plant 3	PP-05										0	0.1	0.01	0.1	0	0	0	0	0.10
	HC-02										0	0	0	0	0	0	0	0	0.00
	Total Volume of Recovered Product										NA	NA	NA	0.1	NA	NA	NA	0	0.10
SWMU58 and SA73, Heating Plant 6	12-110[a]	0.5[b]	0	0	0	0					0	0	0	0					0.50
	12-121[a]		0	0.07	0.01	0.07	0	0	0	0	0	0	0	0	0	0	0	0	0.07
	12-203[a]	2[b]	0	0.6	0.29	1.43[c]	0.12	1.37	0.55	1.66[c]	0	0.31	0.15	1.74[c]	0	0.84	0.25	2.50	9.33
	Total Volume of Recovered Product	2.5	NA	NA	NA	1.5	NA	NA	NA	1.66	NA	NA	NA	1.74	NA	NA	NA	2.50	9.90
Tanker Shed, UST 42494	04-176[a]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	04-306[a]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	04-309[a]	2.5[b]	0	5[e]	1	5[e]	0	0	0	0	0	0	0	0	0	0	0	0	7.50
	Total Volume of Recovered Product	2.5	NA	NA	NA	5	NA	NA	NA	0	NA	NA	NA	0	NA	NA	NA	0.00	7.50

Notes:
Locations that contain blank cells had no recovery information for that time period
NA - not applicable
[1] Recovery Sumps
[a] Product recovery was not conducted through the twelve month time periods of 10/06 to 9/07 and 10/07 to 9/08, but was instead conducted 5/07 to 10/07 and 11/07 to 12/07.
[b] Product recovered during annual groundwater monitoring
[c] Total volume includes volume collected during annual groundwater monitoring activities and volume collected during monthly free product recovery activities.
[d] Free product thickness measurments discontinued after 10/09.
[e] This volume includes water, because free product was emulsified.
[f] This volume includes 0.52 gallons recovered at NMCB during 9/07 annual groundwater monitoring event and 0.2 gallons recovered during the 2009 annual groundwater monitoring event. The groundwater monitoring report did not provide the specific wells where product was recovered.
[g] Well not located.

Summary of Total PCBs 1999 through 2009
Marine Tissue
Bay of Islands, Kuluk Bay, and Sweeper Cove
Former Naval Air Complex, Adak Island, Alaska

Tissue Type	Sample Number	Company Sample ID or Sampling Location	Approximate Sample Date	Number of Analytes Tested	Number of Analytes Detected	Sum of Detected Analytes (ug/kg wet weight)
BAY OF ISLANDS						
Blue mussel	227686	ADAK98	8/1/99	57	14	0.434
	227687	ADAK99	8/1/99	57	11	0.249
	227688	ADAK100	8/1/99	57	11	0.32
	227690	ADAK101	8/1/99	57	3	0.072
					1999 Mean Value	0.269
	227727	BOIM02	7/1/00	58	5	0.0908
	227728	BOIM03	7/1/00	58	8	0.182
	227729	BOIM04	7/1/00	58	4	0.125
	227736	BOIM01	7/1/00	58	6	1.98
					2000 Mean Value	0.594
	227771	BI01M1	6/13/01	58	2	0.04
	227773	BI01M3	6/13/01	58	0	0.01[a]
	227772	BI01M2	6/28/01	58	1	0.023
					2001 Mean Value	0.024
	227812	BI02M1	6/14/02	58	1	0.0187
	227813	BI02M2	6/14/02	58	1	0.0229
	227814	BI02M3	6/14/02	58	2	0.0584
	227815	BI02M4	6/14/02	58	2	0.0399
					2002 Mean Value	0.035
	63044	BI-101	8/1/03	170	15	0.133
	63041	BI-102	8/1/03	170	20	0.198
	63043	BI-103	8/1/03	170	21	0.268
	63045	BI-104	8/1/03	170	18	0.207
	63042	BI-105	8/1/03	170	14	0.108
					2003 Mean Value	0.183
Rock sole	227819	BI-04	7/1/00	56	16	1.14
	227823	BI-08	7/1/00	56	20	1.05
					2000 Mean Value	1.1
	63068	63068	8/2/03	170	24	0.313
	63069	63069	8/2/03	170	28	0.352
	63070	63070	8/2/03	170	27	0.314
	63071	63071	8/2/03	170	27	0.343
	63072	63072	8/2/03	170	21	0.279
					2003 Mean Value	0.32
KULUK BAY						
Blue mussel	227645	2	8/1/99	58	43	5.93
	227646	3	8/1/99	58	32	2.09
	227647	4	8/1/99	58	33	2.27
	227648	5	8/1/99	58	34	2.06
	227649	6	8/1/99	58	24	0.752
	227650	7	8/1/99	58	17	0.553
	227666	23	8/1/99	58	21	1.48
	227667	24	8/1/99	58	39	7.42

Summary of Total PCBs 1999 through 2009
Marine Tissue
Bay of Islands, Kuluk Bay, and Sweeper Cove
Former Naval Air Complex, Adak Island, Alaska

Tissue Type	Sample Number	Company Sample ID or Sampling Location	Approximate Sample Date	Number of Analytes Tested	Number of Analytes Detected	Sum of Detected Analytes (ug/kg wet weight)
Blue mussel (cont.)	227689	1	8/1/99	57	44	14.1
					1999 Mean Value	4.07
	227693	3	7/1/00	58	37	3.68
	227694	4	7/1/00	58	39	4.3
	227695	5	7/1/00	58	30	1.3
	227696	6	7/1/00	58	24	0.79
	227697	7	7/1/00	58	18	0.407
	227700	23	7/1/00	58	26	1.67
	227713	1	7/1/00	58	46	11.7
	227714	2	7/1/00	58	45	12.1
	227717	24	7/1/00	58	29	2.82
					2000 Mean Value	4.31
	227761	23	6/2/01	58	14	2.27
	227762	24	6/2/01	58	24	9.48
	227739	1	6/3/01	58	45	45.4
	227741	3	6/3/01	58	32	11.3
	227744	6	6/3/01	58	13	1.56
	227740	2	6/4/01	58	41	50.7
	227742	4	6/4/01	58	37	17
	227743	5	6/4/01	58	37	10
	227745	7	6/4/01	58	16	0.99
					2001 Mean Value	16.5
	227780	2	6/11/02	58	36	16.8
	227781	3	6/11/02	58	22	4.4
	227782	4	6/11/02	58	31	7.69
	227783	5	6/26/02	58	30	4.59
	227784	6	6/26/02	58	23	1.31
	227785	7	6/26/02	58	24	1.27
	227801	23	6/26/02	58	17	1.69
	227802	24	6/26/02	58	22	4.81
	227779	1	8/28/02	58	41	30.4
					2002 Mean Value	8.1
	63054	5	8/4/03	168	80	9.76
	63055	1	8/4/03	170	92	21
	63056	2	8/4/03	170	81	9.05
	63052	KB-101	8/4/03	170	87	18.5
	63053	KB-102	8/4/03	170	64	3.72
					2003 Mean Value	12.4
	230730	1	6/17/05	168	112	57.1
	230731	2	6/17/05	168	108	60.3
	230732	3	6/16/05	168	96	13.9
	230733	4	6/16/05	168	92	17.6
	230734	5	6/16/05	168	81	10.9
					2005 Mean Value	32

Summary of Total PCBs 1999 through 2009
Marine Tissue
Bay of Islands, Kuluk Bay, and Sweeper Cove
Former Naval Air Complex, Adak Island, Alaska

Tissue Type	Sample Number	Company Sample ID or Sampling Location	Approximate Sample Date	Number of Analytes Tested	Number of Analytes Detected	Sum of Detected Analytes (ug/kg wet weight)
Blue mussel (cont.)	29086-007	KB01	6/10/07	168	112	24.4
	29086-008	KBALT02	6/10/07	168	114	28.6
	29086-009	KB03	6/10/07	168	92	8.48
	29086-010	KB04	6/10/07	168	85	6.7
	29086-011	KB05	6/10/07	168	77	6.84
					2007 Mean Value	15
	KBALT02_062209	KBALT02	6/22/09	194	84	24.4
	KB-001_062209	KB01	6/22/09	194	93	37.8
	KB-003_062209	KB03	6/22/09	195	41	8.85
	KB-004_062209	KB04	6/22/09	195	72	14
	KB-005_062209	KB05	6/22/09	195	32	5.62
					2009 Mean Value	18.1
Rock sole	227623	AD-20	7/29/99	56	41	10.6
					1999 Mean Value	10.6
	227830	AD-01	7/1/00	56	44	2.53
	227837	AD-08	7/1/00	56	45	3.28
	227840	AD-11	7/1/00	56	45	9.21
					2000 Mean Value	5.01
	227580	MSL01AK	8/29/01	58	40	14.6
	227582	MSL01AZ	8/31/01	58	12	0.928
					2001 Mean Value	7.75
	227608	MSL02AK	6/24/02	58	29	8.4
	227610	MSL02AZ	6/24/02	58	23	1.48
					2002 Mean Value	4.94
	63057	63057	7/30/03	170	85	8.88
	63060	63060	7/30/03	170	99	21
	63061	63061	7/30/03	170	88	10.8
	63059	63059	7/30/03	170	94	10.4
	63058	63058	7/30/03	170	96	16.5
					2003 Mean Value	13.5
	230719	230719	6/14/05	168	75	4.88
	230720	230720	6/14/05	168	86	11
	230721	230721	6/14/05	168	81	6.63
	230722	230722	6/14/05	168	80	10.4
	230723	230723	6/14/05	168	80	5.56
					2005 Mean Value	7.69
	29085-007	KB201	6/4/07	168	93	15.5
	29085-008	KB202	6/4/07	168	87	5.58
	29085-009	KB203	6/4/07	168	83	4.59
	29085-010	KB204	6/4/07	168	96	17.4
	29085-011	KB205	6/4/07	168	93	17.5
					2007 Mean Value	12.1
	KB201_062609	KB-204	6/26/09	195	33	4.86
	KB202_062609	KB-204	6/26/09	195	48	12.8

Summary of Total PCBs 1999 through 2009
Marine Tissue
Bay of Islands, Kuluk Bay, and Sweeper Cove
Former Naval Air Complex, Adak Island, Alaska

Tissue Type	Sample Number	Company Sample ID or Sampling Location	Approximate Sample Date	Number of Analytes Tested	Number of Analytes Detected	Sum of Detected Analytes (ug/kg wet weight)
Rock sole (cont.)	KB203_062609	KB-204	6/26/09	195	26	3.99
	KB204_062609	KB-204	6/26/09	195	42	7.83
	KB205_062609	KB-204	6/26/09	195	20	2.53
					2009 Mean Value	6.4
SWEEPER COVE						
Blue mussel	227668	25	8/1/99	58	40	9.66
	227669	26	8/1/99	58	46	35.7
	227670	27	8/1/99	58	47	35.2
	227671	30	8/1/99	58	51	33.7
	227672	31	8/1/99	58	43	11.5
	227674	ADAK83	8/1/99	58	51	89.9
	227675	29	8/1/99	58	47	35.1
	227676	28	8/1/99	58	50	97
					1999 Mean Value	43.5
	227715	25	7/1/00	57	35	5.22
	227716	31	7/1/00	58	44	15.4
	227718	27	7/1/00	58	36	8.76
	227719	28	7/1/00	58	47	345
	227720	29	7/1/00	58	46	26.4
	227721	30	7/1/00	58	44	14.4
	227734	26	7/1/00	58	44	10.4
					2000 Mean Value	60.9
	227763	25	6/1/01	58	24	7.19
	227764	26	6/1/01	58	28	12.7
	227765	27	6/1/01	58	31	15.9
	227766	28	6/1/01	58	34	57.7
	227767	29	6/1/01	58	35	26.8
	227768	30	6/1/01	58	36	28.5
	227769	31	6/1/01	58	32	22.3
					2001 Mean Value	24.4
	227806	28	6/11/02	58	32	98
	227807	29	6/11/02	58	32	23.7
	227808	30	6/11/02	58	32	14.2
	227809	31	6/11/02	58	27	10.1
	227803	25	6/26/02	58	24	5.5
	227804	26	6/26/02	58	24	9.02
	227805	27	6/26/02	58	30	19.2
					2002 Mean Value	25.7
	63046	31	8/4/03	170	99	39.3
	63047	SW-102	8/4/03	170	97	45.5
	63051	SW-102	8/4/03	170	98	38.4[b]
	63048	SW-103	8/4/03	170	91	22.7
	63049	25	8/4/03	170	86	15.2
	63050	27	8/4/03	170	97	43.6
					2003 Mean Value	33.3

Summary of Total PCBs 1999 through 2009
Marine Tissue
Bay of Islands, Kuluk Bay, and Sweeper Cove
Former Naval Air Complex, Adak Island, Alaska

Tissue Type	Sample Number	Company Sample ID or Sampling Location	Approximate Sample Date	Number of Analytes Tested	Number of Analytes Detected	Sum of Detected Analytes (ug/kg wet weight)
Blue mussel (cont.)	230724	25	6/16/05	168	96	22.5
	230725	26/27	6/16/05	168	104	57.3
	230726	28	6/17/05	168	132	458 [b]
	230727	28	6/17/05	168	132	483
	230728	31	6/17/05	168	99	41.4
	230729	102	6/17/05	168	106	63.2
					2005 Mean Value	133
	29086-001	SW25	6/10/07	168	103	15.7
	29086-002	SW26/27	6/10/07	168	106	28.8
	29086-003	SW28	6/10/07	168	125	138
	29086-004	SW31	6/10/07	168	102	28.3
	29086-005	SW46	6/10/07	168	123	112 [b,c]
	29086-006	SW102	6/10/07	168	107	28.6
					2007 Mean Value	47.9
	SW-102_062309	SW-102	6/23/09	195	50	24.3
	SW-31_062309	SW31	6/23/09	195	71	22.8
	SW-28_062309	SW28	6/23/09	195	87	144
	SW-28D_062309	SW28	6/23/09	195	86	140 [b]
	SW-25_062709	SW25	6/27/09	195	40	9.59
	SW-26_27_062709	SW26/27	6/27/09	195	41	11.9
					2009 Mean Value	42.5
Rock Sole	227619	AD-07	8/13/99	56	41	52.9
					1999 Mean Value	52.9
	227848	AD-19	7/1/00	56	46	31.1
	227849	AD-23	7/1/00	56	48	81.4
					2000 Mean Value	56.2
	227579	MSL01AI	6/18/01	58	41	79.4
	227581	MSL01AO	8/31/01	58	41	44.6
					2001 Mean Value	62
	227607	MSL02AI	6/24/02	58	41	120
	227609	MSL02AO	6/24/02	58	43	55.5
					2002 Mean Value	87.5
	63062	63062	7/31/03	170	112	132
	63067	63067	7/31/03	170	110	78.6
	63063	63063	7/31/03	170	104	73.4
	63064	63064	7/31/03	170	110	113
	63065	63065	7/31/03	170	104	79.5
	63066	63066	7/31/03	170	111	98.8
					2003 Mean Value	96
	230713	230713	6/14/05	168	86	25.9
	230714	230714	6/14/05	168	88	23.9
	230715	230715	6/14/05	168	85	14.8

Summary of Total PCBs 1999 through 2009
Marine Tissue
Bay of Islands, Kuluk Bay, and Sweeper Cove
Former Naval Air Complex, Adak Island, Alaska

Tissue Type	Sample Number	Company Sample ID or Sampling Location	Approximate Sample Date	Number of Analytes Tested	Number of Analytes Detected	Sum of Detected Analytes (ug/kg wet weight)
Rock sole (cont.)	230716	230716	6/14/05	168	86	17.1
	230717	230717	6/14/05	168	85	13.1
	230718	230718	6/14/05	168	88	22.1
					2005 Mean Value	19.5
	29085-001	SW201	6/4/07	168	101	80.4
	29085-002	SW202	6/4/07	168	112	127
	29085-003	SW203	6/4/07	168	102	57.7
	29085-004	SW204	6/4/07	168	94	11.5
	29085-005	SW205	6/4/07	168	101	39.2
	29085-006	SW206	6/4/07	168	99	39.0 [b,d]
					2007 Mean Value	59.1
	SW201_062609	SW-204	6/26/09	195	80	49.4
	SW202_062609	SW-204	6/26/09	195	72	38.7
	SW203_062609	SW-204	6/26/09	195	84	60.9
	SW204_062609	SW-204	6/26/09	195	77	39.6
	SW205_062609	SW-204	6/26/09	195	67	33.5
	SW206_062609	SW-204	6/26/09	195	78	45
					2009 Mean Value	44.5

Notes:

The 2007 data was adjusted to exclude all nondetected values in calculating the sum of detected analytes.

[a] Even though no PCB was detected, the detection limit of 0.01 ug/kg was used to calculate the mean.

[b] Not used to calculate the mean value because it is a duplicate sample from the same sampling location.

[c] Sample 29086-005 is a duplicate sample taken from location SW-28. The regular sample taken at this location is sample 29086-003.

[d] Sample 29085-006 is a duplicate (split) of sample 29086-005.

PCBs - polychlorinated biphenyls

ug/kg - microgram per kilogram

APPENDIX D

Site Inspection Forms

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Officer Hill and Amulet Housing 31047A*	**Date of inspection:** *24 August 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Sunny / 55 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☐ Institutional controls
☒ Soil/Sediment removal
☐ Free product recovery
☐ Other
☐ Monitored natural attenuation
☐ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:
☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

3. **Current Overall Site Conditions**
Remarks *Residential home – do not know if occupied*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *One, slab on-grade duplex home*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
Remarks______________________________

2. **Excavation and Well Restrictions**

Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

Remarks______________________________

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A Remarks______________________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks______________________________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Officer Hill and Amulet Housing 31052A*	**Date of inspection:** *24 August 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Sunny / 55 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☐ Institutional controls
☒ Soil/Sediment removal
☐ Free product recovery
☐ Other ____________________

☐ Monitored natural attenuation
☒ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks____________________

3. **Current Overall Site Conditions**
Remarks *Vacant home*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *One, slab on-grade duplex home*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
Remarks____________________

2. **Excavation and Well Restrictions**

Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

Remarks____________________

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A Remarks______________________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks______________________________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Wells have been abandoned*______________________________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *AMW 706 Area*	**Date of inspection:** *23 August 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other ______
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______

3. **Current Overall Site Conditions**
   Remarks *Vegetated alongside Sweeper Creek. Unused / unoccupied land.*______

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks______

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒No ☐ N/A

   Remarks *Wells abandoned.*______

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks______	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Well abandoned.*______	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *AMW 709 Area*	**Date of inspection:** *23 August 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other ______
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______

3. **Current Overall Site Conditions**
   Remarks *Vegetated field along Sweeper Creek.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks______

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Wells abandoned.*

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks	
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A		
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks	
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A		
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks.	
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A		
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Wells abandoned.*	
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A		

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Antenna Field*	**Date of inspection:** *6/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other______________________________
- ☒ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

3. **Current Overall Site Conditions**
   Remarks *Site is unused. Existing site map identifying former tank excavations relative to existing monitoring well ANT-601 appears to be inaccurate.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks______________________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

   Remarks *Drilling and well installation conducted in 2010 by URS for petroleum investigation*

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks____
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒Yes ☐ No ☐ N/A Remarks____
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Arctic Acres*	**Date of inspection:** *24 August 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Sunny / 55 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment	☒ Monitored natural attenuation
☐ Access controls	☒ Groundwater monitoring
☒ Institutional controls	☐ Marine tissue monitoring
☐ Soil/Sediment removal	☐ Ordnance clearing
☐ Free product recovery	
☐ Other______________________________	

References Supplementing This Checklist:
- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

2. **Land use changes off site** ☒ Yes ☐ No ☐ N/A
   Remarks *Vacant blue building across from tanks is new bar and grill.*

3. **Current Overall Site Conditions**
   Remarks *Vacant housing units, several large ASTs in bermed pit.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Several vacant housing units.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☒ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks______________________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks______________________________

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☒ Properly secured/locked ☒ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *Area 303*	**Date of inspection:** *8/25/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grad/modular*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *GCI Compound*

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *Slab on grade/modular*

Number of floors: *1* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks *T-2776* Unsure of building use

Building surrounded by ☒ asphalt ☐ concrete ₦ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

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Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Area 303*	**Date of inspection:** *August 25, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light Rain / 45 F*

Remedy Includes: (Check all that apply) *RECOMMENDED REMEDY – NOT FORMALLY SELECTED*

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery
- ☐ Other
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

D01 Focused Feasibility Study

D07 SAP

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Eagle Bay 303 product recovery unit. Site overlays with SWMU 62 and parts of GCI compound.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *GCI building and former Line Shed T-2776*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

   Remarks *Area 303 vapor monitoring points.*

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks	
	V. FREE PRODUCT RECOVERY SYSTEM ☒ Applicable ☐ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks *System has been shut down*	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks *System has been shut down*	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *System has been shut down*	
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *System has been shut down*	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A	

Vapor Intrusion Condition Checklist

Site name: *ASR-8*	**Date of inspection:** *8/24/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55, Sunny*

Inventory of Structures

Building #: 1 **Type of construction:** *Slab on grade*

Number of floors: 2 **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *ASR 8 Facility*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:**

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Recent excavation (2008) 15 x 20 foot on south side of the building, lead acid battery and NiCd battery inside building*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *One, two-story concrete slab on grade*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remark

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks Navy authorized excavation to remove petroleum impacted soil

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A
   Remarks *No signage*

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks______________________________
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Boy Scout Camp West Haven Lake*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Marshy, next to lake. No building, wells abandoned*.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures *Concrete pad remains*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☒ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☒ N/A
   Remarks____________________

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks____________________

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______________________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Wells have been abandoned* ______________________________
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Contractor's Camp Burn Pad*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other ______
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______

3. **Current Overall Site Conditions**
   Remarks *Concrete wall approximately four feet high surrounds concrete and gravel pad. Surrounded by gravel and bare soil.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks______

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A
   Remarks______

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A
   Remarks______

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks____ ____ ____ ____
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____ ____
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____ ____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____ ____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____ ____
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____ ____
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Finger Bay Quonset Hut*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Breezy, Cloudy / 50 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☐ Institutional controls
☒ Soil/Sediment removal
☐ Free product recovery
☐ Other______________________________

☐ Monitored natural attenuation
☒ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

3. **Current Overall Site Conditions**
Remarks *"No excavation" sign is placed downgradient of site. Located backfilled excavation (from UST pit) and piping. Pits from old well monuments visible. UST backfill is gravel and not revegetated.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
If Yes, number & type of structures ______________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks______________________________

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☒No ☐ N/A

Remarks______________________________

3.	**Signs and other security measures** ☐ Intact ☒ Work Needed ☐ N/A Remarks *In the incorrect location.*
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☒ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks *Sign should be placed in a more appropriate location.*
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Wells have been abandoned.*
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒N/A

Vapor Intrusion Condition Checklist

Site name: *Former Power Plant*	**Date of inspection:** *6/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Inventory of Structures

Building #: *1* **Type of construction:** *Slab on grade*

Number of floors: *2* **Possible floors below grade?** ☐ Yes ☐ No ☒ Unsure

Building occupied/in use ☒Yes ☐ No ☐ N/A

Remarks *GEM building used for vehicle repair and storage – welding shop*

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *slab on grade*

Number of floors: ***1*** **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remarks *Storage shed/outbuilding, used for some machine shop activities*

Building surrounded by ₦ asphalt ☐ concrete ₦ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Inventory of Structures, continued **Page**

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Former Power Plant*	**Date of inspection:** *June 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☒ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks_ *Fiber optic lines installed along Main Road right of way on west side of road – unsure of date installed*.__________________________

3. **Current Overall Site Conditions**
   Remarks *Vehicles stored on gravel lot surrounding building, otherwise vegetated tundra with grasses. Fuel odors and staining present along East Canal.*__________________________

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *2 used for vehicle storage/repair & welding, 1 secondary storage building* __________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____

2. **Excavation and Well Restrictions**

   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A

   Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

   Remarks_ *Soil borings were installed by URS in 2010 as part of petroleum investigation/characterization activities. Fiber optic cable was laid within the last 5 years.*__________________________

3. **Signs and other security measures** ☒Intact ☐ Work Needed ☐ N/A
Remarks____
____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____
____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____
____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____
____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____
____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks *Booms installed in East Canal for sheen control*___________________________
____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☒ Properly secured/locked ☒ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *GCI Compound*	**Date of inspection:** *8/25/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45 light rain*

Inventory of Structures

Building #: *1* **Type of construction: slab on grade**

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☐ No ₦ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks___Fenced yard around structure – appears to have been abandoned for several years.______

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____

____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____

____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____

____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____

____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____

____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____

____
Building surrounded by asphalt concrete Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *GCI Compound*	**Date of inspection:** *August 25, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light rain / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery *ended*
- ☐ Other________________________________
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks________________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks________________________________

3. **Current Overall Site Conditions**
   Remarks *Flat grassy field, fenced yard around small building and satellite dish. Dish is falling apart. Old propane above ground storage tank and connex in the yard.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Concrete one story slab on grade.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks________________________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

   Remarks *Area 303 vapor monitoring wells.*

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks______________________________
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______________________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Kuluk Bay*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☒ Other *Fish advisory*
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☒ Yes ☐ No ☐ N/A
   Remarks *SBX Radar system anchor points have been installed in Kuluk Bay*.

2. **Land use changes off site** ☐ Yes ☒No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Fish advisory broadcast by fact sheets and video. No major developments. Recent work on Metals Landfill and Palisades Landfill. Several other sites are located adjacent to Kuluk Bay and may contribute to site conditions.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☒ N/A

   Remarks *Although not visible, anchors for the SBX Radar system have been installed approximately 1 mile from shore,*

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A Remarks____________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____________________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____________________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____________________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________________	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *MAUW Compound*	**Date of inspection:** August 23, 2010
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☒ Yes ☐ No ☐ N/A
   Remarks *Rental car operation now at this site, including maintenance of cars*

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Building used for vehicle maintenance. Noted tire changing tools inside building Rental vehicles are stored outside. Vehicles are in fair to poor condition and may leak fluids (none observed).*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Fortified slab on grade concrete and corrugated metal.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**

   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A

   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____________________

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks___________
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒Yes ☐ No ☐ N/A Remarks___________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks___________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks___________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks___________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks___________
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks_*Wells have been abandoned*___________
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *MAUW Compound*	**Date of inspection:** *8/23/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *50 overcast*

Inventory of Structures

Building #: ***1*** **Type of construction:** *concrete bunker*

Number of floors: ***1*** **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remarks Former explosives storage rented out as storage bunkers – built into hillside with vegetated tundra covering roof of structure.

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *concrete barracks*

Number of floors: *2* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks Unoccupied marine barracks

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *3* **Type of construction:** *slab on grade – concrete and corrugated metal*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remarks Garage area being used for automotive repair. Rental vehicles being stored outside of building

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *4* **Type of construction:** *slab on grade block and metal tower*

Number of floors: *2-3* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ₦ No ☐ N/A

Remarks Abandoned security watchtower

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Vapor Intrusion Condition Checklist

Site name: *Moffett Power Plant 5*	**Date of inspection:** *8/23/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *50, overcast, fog*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade – concrete and metal*

Number of floors: *1-2* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Open building – generators present inside.*

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Mt Moffett Power Plant 5*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast, some fog / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☒ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing
- ☐ Other______

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______

3. **Current Overall Site Conditions**
   Remarks *Metal debris near former tank pit. Building is open. Undeveloped and not being used. Five transformers with staining on the ground. Signage saying "PCB free" are in a raised bed with concrete curb surrounding. Near Building 10359.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Four – Main power plant building is of interest – One floor, slab on grade.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks______

2. **Excavation and Well Restrictions**

	Yes	No	N/A
Evidence of Excavation?	☐	☒	☐
Evidence of Well Installation?	☐	☒	☐

Remarks______

3.	**Signs and other security measures** ☒ Intact ☒ Work Needed ☐ N/A Remarks *Sign present at south end of site only.*	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Wells have been abandoned.*	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *NAVFAC Compound*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast, windy / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Abandoned buildings surrounded by gravel and tall grasses. Day tank just inside building. Tank pit doesn't appear to be fully backfilled. Note well sand spilled on the ground – abandoned well*.

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Building complex – slab on grade, one story, mix of concrete and corrugated metal.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

   Remarks____________________

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A Remarks	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks	
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A		
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks	
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A		
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks	
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A		
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Wells have been abandoned.*	
VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A		

Vapor Intrusion Condition Checklist

Site name: *NAVFAC Compound*	**Date of inspection:** *8/23/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast, windy / 45 F*

Inventory of Structures

Building #: *1-6* **Type of construction:** *slab on grade – concrete and metal*

Number of floors: *1-2* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Buildings are unsafe, significant water damage has caused some structural issues No entry was made.*

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks______________________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks______________________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks______________________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks______________________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Vapor Intrusion Condition Checklist

Site name: *Navy Exchange*	**Date of inspection:** *8/24/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 Sunny*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*

Number of floors: *1-2* **Possible floors below grade?** ☐ Yes ☐ No ☒ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks _*Large, vacant building possibly used for storage*____________________

Building surrounded by ☒ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Navy Exchange Building*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Sunny / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☒ Yes ☐ No ☐ N/A
   Remarks *Construction company storage site*

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Used as staging area, equipment storage and laydown for Lackloey Construction.*

4. **Building(s) located on site** ☒Yes ☐ No ☐ N/A
   If Yes, number & type of structures *One large one story slab on grade.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A
   Remarks____________________

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A
   Remarks____________________

Catalog – need more info about where tanks were relative to building location.

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks____________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____________________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________________
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Well is still on-site in the tank pit.*____________________
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Catalog – need more info about where tanks were relative to building location.

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *New Roberts Housing*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other______
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______

2. **Land use changes off site** ☒ Yes ☐ No ☐ N/A
   Remarks *Adjacent to housing complex, dredge spoils from small boat harbor are being collected / piled – cross to downgradient.*

3. **Current Overall Site Conditions**
   Remarks *Very well vegetated. Fence posts and berm remain surrounded. Old above ground storage tank location. Adjacent to Helmet Creek which received potentially impacted by a January 2010 fuel spill.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks______

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

   Remarks______

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A
   Remarks______

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks____ ____ ____ ____
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____ ____
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____ ____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____ ____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____ ____
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____ ____
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Vapor Intrusion Condition Checklist

Site name: *NMCB*	**Date of inspection:** *8/24/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 Partly sunny*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade, corrugated metal*

Number of floors: *1-2* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *slab on grade, corrugated metal*

Number of floors: ***1*** **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *NMCB Building (T-1416)*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Partly sunny / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery - *ended*
- ☐ Other ______
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______

3. **Current Overall Site Conditions**
   Remarks *Wells located on disintegrating asphalt, gravel and concrete surrounding building. Not in use. One loader onsite, several rusty drums. Staining near overpack drums on SW Corner of building. Metal and wood debris, gas tank on a trailer.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Two slab on grade structures.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks______

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks______

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks___
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks___
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks___
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks___
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks___
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks___
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☒ All required wells located ☒ Needs Maintenance ☐ N/A Remarks___
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *NORPAC Hill Seep*	**Date of inspection:** *8/24/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 Sunny*

Inventory of Structures

Building #: *1 – 2* **Type of construction:** *Slab on grade - modular*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks Abandoned/unoccupied homes. These homes receive the brunt of the weather and are likely not habitable. Similar homes further upgradient of site are occupied. ____________________________

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *NORPAC Hill Seep Area*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Sunny / 55 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☒ Institutional controls
☐ Soil/Sediment removal
☒ Free product recovery – *ended*
☐ Other______________________________

☐ Monitored natural attenuation
☒ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☒ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

3. **Current Overall Site Conditions**
Remarks: *Kuluk Housing mostly upgradient of the site – units unoccupied. Kuluk Beach below.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *Vacant, slab on grade duplex homes.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks______________________________

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

Remarks *Unmarked, 2-inch PVC stickup – no monument.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
Remarks______________________________

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______________________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *One surface completion recently replaced – flush mount 04-150.*
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒Applicable ☐ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *ROICC UST – 2 (Warehouse)*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks *Covered in debris from disintegrating ROICC warehouse building.The condition of the building does not present a vapor intrusion pathway(limited walls and ceiling).Abandoned drums rusting inside warehouse (23 and 2 overpack). Debris from warehouse falling apart. Turf staples and jute matting stored inside warehouse.*

4. **Building(s) located on site** ☒Yes ☐ No ☐ N/A
   If Yes, number & type of structures *One warehouse (disintegrating). Slab on grade wood frame and corrugated metal*.

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks____

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

   Remarks____

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A Remarks____________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☒ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☒ N/A Remarks____________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Wells have been abandoned*.____________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *ROICC UST – 3 (Warehouse)*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other______________________________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________________

3. **Current Overall Site Conditions**
Remarks *Covered in debris from disintegrating ROICC warehouse building.The condition of the building does not present a vapor intrusion pathway(limited walls and ceiling).Abandoned drums rusting inside warehouse (23 and 2 overpack). Debris from warehouse falling apart. Turf staples and jute matting stored inside warehouse.*__________________.

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *One warehouse (disintegrating). Slab on grade wood frame and corrugated metal*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
Remarks______________________________________

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

Remarks______________________________________

3. **Signs and other security measures** ☐ Intact ☐ Work Needed N/A
Remarks____
____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☐ Yes ☐ No N/A
Site conditions imply ICs fully enforced ☐ Yes ☐ No N/A

Remarks____
____
____
____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____
____
____
____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____
____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____
____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VI. MNA/GROUNDWATER MONITORING Applicable ☒ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks *Wells have been abandoned*.____
____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *ROICC UST-7*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Windy / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☒ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks Ponded area in driveway. Well vegetated.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks______________________________
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______________________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *ROICC UST-8*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Windy / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Well vegetated, grassy area*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks *Well 08-160 missing lid*.

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks

4. **Institutional Controls**

Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A

Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____
____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**

Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A

☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____
____
____
____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)

☐ Good condition ☐ Needs Maintenance ☐ N/A

Remarks____
____

2. **Tanks, Vaults, Storage Vessels**

☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A

Remarks____
____

3. **Monitoring and Recovery Wells**

☐ Properly secured/locked ☐ Good condition ☐ All required wells located

☐ Needs Maintenance ☐ N/A

Remarks____
____

VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Good condition ☐ All required wells located

☐ Needs Maintenance ☐ N/A

Remarks____
____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Runway 5-23 Avgas Valve Pit*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy w/ sunshine / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other
- ☒ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Well vegetated and marshy*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Tire tracks on access taxiway.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VI. MNA/GROUNDWATER MONITORING ☒Applicable ☐ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *South of Runway 18-36*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Breezy, partial sun / 50 F*

Remedy Includes: (Check all that apply)

- ☒ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery
- ☐ Other
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Mostly tundra with roadways. Seven well recovery trench, located at end of runway 18-36, ruts near access road used in 2009 for pipeline decommissioning.*

4. **Building(s) located on site** ☐ Yes ☒No ☐ N/A
   If Yes, number & type of structures

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒N/A
   Remarks

2. **Excavation and Well Restrictions**

   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A

   Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

   Remarks *Three clusters of 1-inch PVC near AS-1 (?)*

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒Yes ☐ No ☐ N/A Remarks________________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☒ Applicable ☐ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☒ N/A Remarks________________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks________________	
3.	**Monitoring and Recovery Wells** ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks________________	
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks________________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA76 – Old Line Shed Building*	**Date of inspection:** *August 25, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light Rain / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Concrete pad with 2 dumpsters – Used as a solid waste transfer station and carwash. Old dump truck parked on eastern portion of pad.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ____________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**

   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A

   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____________________

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A
Remarks____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA 77 – Fuel Division Area Drum Storage*	**Date of inspection:** *August 25, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light Rain / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other.
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *One diesel and one gasoline above ground storage tank near pumps. Two pumps for fuel, payment shack, and flat gravel yard. Sheen observed at surface. Small drainage swale dug adjacent to site on south side – draining runoff from dredge spoils. Poorly stored drums – four have blue oil (?) on site adjacent to containment berm* .

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Small enclosure for fuel credit card payments/*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☒ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks *Part of fuels facility*

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks______________________________
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______________________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *SA 77 – Fuel Division Area Drum Storage*	**Date of inspection:** *8/25/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light Rain / 45 F*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remarks _*Small enclosure for fuel credit card payments*____

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Vapor Intrusion Condition Checklist

Site name: *SA78 – Old Transportation Building*	**Date of inspection:** *8/20/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 foggy*

Inventory of Structures

Building #: *1* **Type of construction:** ***slab on grade, block***

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☐ No ☒ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Vehicle maintenance and offices*.

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA78 – Old Transportation Building*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery *ended*
- ☐ Other
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒No ☐ N/A
Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks

3. **Current Overall Site Conditions**
Remarks *One side of building surrounded with asphalt – driveway and parking – downgradient side. Wells all down gradient of driveway on hillside between shop and Clam Lagoon*.

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *One slab on grade and concrete block l building with several bays for vehicles, upgradient of the site*.

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

Remarks

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks_______________________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks_______________________________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks_______________________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks_______________________________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks_______________________________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks_______________________________	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks_______________________________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA 79 Main Road Pipeline (South End)*	**Date of inspection:** *6/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________________________
- ☒ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________________________

3. **Current Overall Site Conditions**
   Remarks *Vacant field behind former bar and grill*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures *Bar and grill building nearby but slightly offsite*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

   Remarks *Drilling and well installation conducted in 2010 by URS for petroleum investigation.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks____________________________________

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☒ Properly secured/locked ☒ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Vapor Intrusion Condition Checklist

Site name: *SA 80 SteamPlant 4*	**Date of inspection:** *8/24/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55, partly sunny*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*
Number of floors: *1-2* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☒ No ☐ N/A
Remarks Former steam plant, sub floors and 20 foot ceiling
Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *slab on grade*
Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure
Building occupied/in use ☐ Yes ☒ No ☐ N/A
Remarks Small storage outbuilding
Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA 80 – Steam Plant 4*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Partly sunny / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery *ended*
- ☐ Other
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Unused building – possible regrading on east side.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *One main building and one small storage outbuilding. Each are one story slab on grade.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks Well *04-155 and others need new flush mount completions.*

3. **Signs and other security measures** ☐ Intact ☒ Work Needed ☐ N/A
   Remarks *No signs observed.*

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☐ Good condition ☒ All required wells located ☒ Needs Maintenance ☐ N/A Remarks____
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *SA 82 P80/P81*	**Date of inspection:** *8/20/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 windy, overcast*

Inventory of Structures

Building #: *1* **Type of construction:** *concrete block*

Number of floors: *1* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks___*Gray with blue roof – secured building. Subgrade ventilation visible – has false floors for wiring.*

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *slab on grade*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks_*Beige & rusted corrugated metal – transformer outside*

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *3* **Type of construction:** ☐

Number of floors:*1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks Three white tanks, Chlorine Gas Warning sign. Water treatment system?

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *4* **Type of construction:** *cinder block shed*

Number of floors:*1* **Possible floors below grade?** ☐ Yes ☒No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA 82 P80/P81*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Windy, overcast / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery *ended*
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Unused / abandoned buildings*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Two slab on grade metal sided buildingspartially open block storage area and one connex*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Well 12-180 missing the lid*.

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks____	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____	
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☒ Good condition ☒ All required wells located ☒ Needs Maintenance ☐ N/A Remarks ____	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA 85 – New Baler Building*	**Date of inspection:** *August 23, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast, windy / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing
- ☒ Other *No Further Action based ADEC Method 4 criteria– excluded from ROD*

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☒Yes ☐ No ☐ N/A
   Remarks *Garbage burning is performed east of the site at the former Old Fuel Truck Stop.*

3. **Current Overall Site Conditions**
   Remarks *Abandoned building surrounded by gravel pad. Abandoned dumpsters, bailing equipment and bailing wire. Building is located far away and upgradient of the investigation area*

4. **Building(s) located on site** ☒Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Concrete slab on grade warehouse, one floor (tall) surrounded by gravel.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A
   Remarks

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A
   Remarks

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks____
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SA 86 – Old Happy Valley Child Care*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment ☐ Monitored natural attenuation
☐ Access controls ☐ Groundwater monitoring
☐ Institutional controls ☐ Marine tissue monitoring
☐ Soil/Sediment removal ☐ Ordnance clearing
☐ Free product recovery
☒ Other *No Further Action based ADEC Method 4 criteria– excluded from ROD*

References Supplementing This Checklist:
☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks______________________________

3. **Current Overall Site Conditions**
Remarks *Old playground equipment and demolition debris on site. Concrete pad remains. Antifreeze drum with foul smelling liquid on site (black poly). Metal debris, wood debris, piping all onsite*.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
If Yes, number & type of structures *Building debris*______________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
Remarks______________________________

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

Remarks______________________________

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A
Remarks______________________________

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks____________________
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____________________
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________________
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________________
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SA 88 – P70 Energy Generator*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Windy, foggy / 55 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☒ Institutional controls
☐ Soil/Sediment removal
☒ Free product recovery *ended*
☐ Monitored natural attenuation
☒ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing
☐ Other____

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☒ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks____

3. **Current Overall Site Conditions**
Remarks *One abandoned structure, old tank pit not revegetated. Fuel odor (diesel) inside structure.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *One slab on grade with concrete block walls*________________.

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks____

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

Remarks *Oxygen probes damaged during copper salvaging operations track marks on asphalt road.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
Remarks____

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☒ No ☐ N/A Site conditions imply ICs fully enforced ☐Yes ☒ No ☐ N/A Remarks *Unauthorized excavation for copper salvaging, damage was mitigated by the contractor.* ___
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks___
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks___
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks___
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks___
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☒ Needs Maintenance ☐ N/A Remarks *Wells are in mostly good condition, some work will be needed in the next few years.*___
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒Applicable ☐ N/A

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SA 88 – P70 Energy Generator*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Windy, foggy / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery *ended*
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *One abandoned structure, old tank pit not revegetated. Fuel odor (diesel) inside structure.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *One slab on grade with concrete block walls* .

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Oxygen probes damaged during copper salvaging operations track marks on asphalt road.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks____________________

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☒ No ☐ N/A Site conditions imply ICs fully enforced ☐Yes ☒ No ☐ N/A Remarks *Unauthorized excavation for copper salvaging, damage was mitigated by the contractor.*
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☒ Needs Maintenance ☐ N/A Remarks *Wells are in mostly good condition, some work will be needed in the next few years.*
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒Applicable ☐ N/A

Site Inspection Checklist

I. SITE INFORMATION

Site name: *South Sweeper Creek*	**Date of inspection:** *8/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *50 overcast w/fog*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☒ Institutional controls
☒ Soil/Sediment removal
☐ Free product recovery
☐ Other____

☐ Monitored natural attenuation
☐ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks_Few additional booms for sheen control ________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks____

3. **Current Overall Site Conditions**
Remarks Booms present for sheen control Water level is low – pumps do not appear to be actively transferring water from canals to South Sweeper Creek. ________________________

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
If Yes, number & type of structures ________________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks____

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

Remarks_Well installation adjacent to creek at SWMU 60 and SA 79________________

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A
Remarks____

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Sweeper Cove*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast, some fog / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☒ Other *Fish Advisory*
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☒ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks *Dredging in the small boat harbor*

2. **Land use changes off site** ☐ Yes ☒No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Dredging activities in small boat harbor. Fuels dock operational and two docks for barge, fishing, and pilot boats near former fish processing facilities.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures *Buildings adjacent to shoreline.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Dredging at the small boat harbor*

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A Remarks	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks *Video and fact sheets broadcast fish / shellfish consumption activities* .	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks *Riprap armoring present along much of shoreline.*	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *Absorbent booms situated along the mouth of South Sweeper Creek to reduce petroleum migration*	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks *LTM tissue sampling (odd years) and groundwater at adjacent sites.*	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 2 – Causeway Landfill*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Very windy / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks *One drum offsite to the north*

3. **Current Overall Site Conditions**
   Remarks *Tall grasses and tundra. Looks like slight subsidence – no washouts. Small amounts of metal debris visible at margin.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures

III. ACCESS AND INSTITUTIONAL CONTROLS ☒Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks *Sign at the southeast is loose – could be tightened*

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____
	IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A ☐ Signs of erosion ☒ Signs of settlement ☐ Indicators of poor drainage control Remarks_*Minor historical settlement*.________________________________
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 4 – South Davis Road Landfill*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy / 55 F*

Remedy Includes: (Check all that apply)

- ☒ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☒ Yes ☐ No ☐ N/A
   Remarks *Recent new sign placement, drainage improvments and grading.*

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Fairly well vegetated, metal debris along shoreline is evident.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒No ☐ N/A
   Remarks *Erosion and drainage repairs*.

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks *New signs*

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____
	IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks *Some exposed metal debris at edge – just beyond cap along shoreline. Ponding – cap in good condition. Ponding is at the north edge of landfill just behind a berm, appears it could be an engineered feature.*
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 10 – Old Baler Building*	**Date of inspection:** *August 25, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light rain / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks *Few stray, rusty drums, fenced area, graveled grassy yard. Stack of cinder blocks. 2 abandoned POL drums. POL = petroleum, oil, or lubricant*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ____________________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks ____

2. **Excavation and Well Restrictions**

   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A

   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____

3.	**Signs and other security measures** ☐ Intact ☒ Work Needed ☐ N/A Remarks *No signs in the immediate vicinity, signs are present throughout the Downtown Area*	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____________	
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A		
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____________	
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A		
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________	
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A		
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____________	
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A		

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SWMU 11 – Palisades Landfill*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy / 55 F*

Remedy Includes: (Check all that apply)

- ☒ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☒ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *North swale has new riprap. New signage. Metal debris in ravine below capped area*.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ____________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Minor grading work from repair activity*.____________________

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks____________________

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____
IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks *Vegetation stressed near where new riprap was placed.*_______________
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 13 – Metals Landfill*	**Date of inspection:** *August 25, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 48 F*

Remedy Includes: (Check all that apply)

- ☒ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks *Recent improvement to cap and removal of metal debris along the shoreline areas. Gravel / rock added to drainage swales. Significant metal debris accumulated around rocks near northeast corner of landfill.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ________________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒Applicable ☐ N/A

1. **Fencing/Gates** ☒ Intact ☒ Gates secured ☐ Work Needed ☐ N/A
   Remarks____

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Debris removal,grading and drainage work was performed in 2010.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks____

4. **Institutional Controls**

Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A

1. **Overall Conditions**

Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks *Recent improvements have significantly reduced the amount of exposed metal debris along the shoreline. There is additional metal debris on at the northeast corner of the landfill.*

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)

☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____

2. **Tanks, Vaults, Storage Vessels**

☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____

3. **Monitoring and Recovery Wells**

☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)

☒ Properly secured/locked ☒ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 14 – Old Pesticides Disposal Area*	**Date of inspection:** *August 25, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light rain / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Open field behind liquor store, littered with debris – mostly wood and plastic*.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ____________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____________________

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A
Remarks____
____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____
____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____
____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____
____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____
____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☒ Properly secured/locked ☒ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 15 – Future Jobs / DRMO*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other ____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Fishing supplies, fish processing plant materials, CDF Methane tanks, refrigerant canisters, NWC drum storage – burst drums with oil pooled on surface – many drums, some rusty but full. Water leak next to blue shed – water flowing onto site, few vehicles, cans and buckets of paint, two monitoring well stickup monuments, crane, spalling asphalt near crane. Above ground storage tank, waste drums, significant stained soil - into drainage area, batteries, forklift*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Corrugated metal shed – staining on ground*____________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Excavation from the corner of the Blue Shed to the east to investigate a water leak was evident.*____________________

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A Remarks______________________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☒ No ☐ N/A Remarks ______________________________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________	
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Vapor Intrusion Condition Checklist

Site name: *SWMU 15 Future Jobs/DRMO*	**Date of inspection:** *8/20/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 windy, overcast*

Inventory of Structures

Building #: *1* **Type of construction:** *corrugated metal on slab*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ₦ No ☐ N/A

Remarks___._

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:** ☐

Number of floors: **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks ____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ₦ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 16 – Former Firefighting Training Area*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy, some sunshine / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks *No apparent activity. Flat asphalt and concrete tarmac area surrounded by low-lying shrubs*.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ________________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks___	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks___	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks___	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks___	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks___	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks___	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks___	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Vapor Intrusion Condition Checklist

Site name: *SWMU 17*	**Date of inspection:** *8/21/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *50 foggy with sun*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*

Number of floors: 1-2 **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☒Yes ☐ No ☐ N/A

Remarks *Operating power plant, sumps and subfloors expected.*

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *slab on grade*

Number of floors: ***1-2*** **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Former dry cleaners*

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 17 – Power Plant 3*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy with sunshine / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☒ Soil/Sediment removal (Waste oil pond)
- ☒ Free product recovery *ended*
- ☐ Other______
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks______

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks______

3. **Current Overall Site Conditions**
Remarks *Drums have been removed or are crushed and stacked near AST. Blue drum in Yakutat Creek – review team removed it. Hillside slumping below pipeline along Yakutat Creek. Note product recovery system with drum (motor oil). Staining noted – we've tipped drums back upright.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *Main power plant building, former dry cleaner building and a partially enclosed flammable storage building.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks______

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

Remarks *Recent excavation and grading near well HC-3.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
Remarks____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☐ Yes ☒ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☒ Properly secured/locked ☒ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SWMU 18 and 19 – White Alice Landfill*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Fog and rain / 45 F*

Remedy Includes: (Check all that apply)

- ☒ Cover or capping/containment
- ☐ Access controls (signage)
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐Yes ☒ No ☐ N/A
Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks

3. **Current Overall Site Conditions**
Remarks *Repairs made to significant erosion on the south side – slope stabilization netting and sandbags*.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
If Yes, number & type of structures

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☒ Intact ☒ Gates secured ☐ Work Needed ☐ N/A
Remarks *Repairs were made to large areas*

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒No ☐ N/A
Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
Remarks

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
Remarks *New signage*

4. **Institutional Controls**

Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A

Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A

1. **Overall Conditions**

Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A

☒ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks *Recently repaired*__________________.________________________________

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)

☐ Good condition ☐ Needs Maintenance ☐ N/A

Remarks____

2. **Tanks, Vaults, Storage Vessels**

☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A

Remarks____

3. **Monitoring and Recovery Wells**

☐ Properly secured/locked ☐ Good condition ☐ All required wells located

☐ Needs Maintenance ☐ N/A

Remarks____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Good condition ☒ All required wells located

☒Needs Maintenance ☐ N/A

Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 20 – White Alice / Trout Creek*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Fog / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other______________________________
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks ______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks ______________________________

3. **Current Overall Site Conditions**
   Remarks *New "cap/berm" placed at top. Few metal cables present. Few slumps filled in. Metal debris present in slumping material. Downgradient of site – landslides / slumping along Trout Creek cut banks.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒N/A
   Remarks______________________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Material borrowed from quarry wall on adjacent SWMU 21A.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks______________________________

4. **Institutional Controls**

Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A

Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____

____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**

Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A

☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____

____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)

☐ Good condition ☐ Needs Maintenance ☐ N/A

Remarks____

____

2. **Tanks, Vaults, Storage Vessels**

☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A

Remarks____

____

3. **Monitoring and Recovery Wells**

☐ Properly secured/locked ☐ Good condition ☐ All required wells located

☐ Needs Maintenance ☐ N/A

Remarks____

____

VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Good condition ☐ All required wells located

☐ Needs Maintenance ☐ N/A

Remarks____

____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SWMU 21A – White Alice Upper Quarry*

Date of inspection: *August 21, 2010*

Location and Region: *Adak Island, Alaska, Region 10*

EPA ID: *AK4170024323*

Agency, office, or company leading the five-year review: *NAVFAC NW*

Weather/temperature: *Fog / 45 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other________________________________
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☒ Yes ☐ No ☐ N/A
   Remarks *Quarry rock recently used for SWMU 20 repair.*

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

3. **Current Overall Site Conditions**
   Remarks *Approximately four rusted out drums laying on their side*.

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks______________________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks *Authorized quarry activities*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks______________________________

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____
____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒N/A

1. **Overall Conditions**
Site conditions regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____
____
____
____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____
____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____
____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 23 – Heart Lake Drum Disposal Area*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Foggy / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks *Low lying tundra with drainage and ravine, well vegetated quarry located to the east. IC sign located just below ravine. Few drums noted up on the hillside south of the site. Orange traffic cone and metal object visible near northern boundary of the site (rifle target)*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ____

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
Remarks____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 24 – Haz Waste Storage Facility*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing
- ☒ Other *RCRA NFA – IC's in place to restrict land use to commercial / industrial*

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Current Overall Site Conditions**
   Remarks *Heaps of metal – vehicles, furniture, appliances, rusty drums, connex filled with paint, stained ground. Cannot access shed / awning.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Open rusty corrugated metal shed*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks *Gate not closed or fully functional * Used as metal debris storage*

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☒ N/A
   Remarks *No signage*

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks *This area is being used for commercial / industrial purposes.* ______________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 25 – Roberts Landfill*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☒ Cover or capping/containment
- ☒ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other ____________________
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☒ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☐ No ☐ N/A
   Remarks____________________

2. **Land use changes off site** ☐ Yes ☐ No ☐ N/A
   Remarks____________________

3. **Current Overall Site Conditions**
   Remarks *Eastside of landfill – fair bit of plastic trash / municipal waste visible at surface – mostly along driveway / roadway very little visible off the driving path. Northwest side of landfill- unidentified well with tubing and stop cocks. Site not fully secured – no gate at north end. "Asbestos containing" signage across the street are fading out – vegetative cover is good. To access blue water tanks, driving path clips through the north end of the landfill. Significant amount of metal and concrete debris exposed at surface just outside northern fenceline. Area is uncapped. Washed out tundra.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ____________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☒ Intact ☐ Gates secured ☒ Work Needed ☐ N/A
   Remarks *Recent repairs to fencing and gates were noted Access gate leading from Tank Farm D was open and a cable gate in the north center of the landfill was open during the inspection.*

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks____________________

3.	**Signs and other security measures** ☒ Intact ☒Work Needed ☐ N/A Remarks *Recent new signs posted, signs for the bunkers containing asbestos-containing material are fading.*	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks *Access to active water tanks (near Tank Farm D) is through gates on the NW corner of the landfill and skirts the landfill boundary. Additional signage is warranted here.*	
	IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks *Wear and tear along roadway near well A-3 – some refuse exposed. Otherwise vegetation cover looks good*.	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks	
	VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 29 – Finger Bay Landfill*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____________________
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☒ Yes ☐ No ☐ N/A
   Remarks *Minor regrading was apparent*
2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____________________
3. **Current Overall Site Conditions**
   Remarks ____________________
4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ____________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____________________
2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks *Minor regrading was apparent*
3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks____________________

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____
	IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks *Areas documented as unvegetated/eroded in IC reports appears unwarranted, area appears that soil from here may been used for landfill cover and inclement weather forces prevent revegetation.*
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Vapor Intrusion Condition Checklist

Site name: *SWMU 35*	**Date of inspection:** *8/24/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55, sunny*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*
Number of floors: *1* **Possible floors below grade?** ☐ Yes ☐ No ☒ Unsure
Building occupied/in use ☒ Yes ☐ No ☐ N/A
Remarks *Ground support equipment building – office and shop space for airfield operations*
Building surrounded by ☒ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks______________________________
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks______________________________
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks______________________________
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks______________________________
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure

Building occupied/in use ▯ Yes ▯ No ▯ N/A

Remarks____

____

Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 35 – Ground Support Equipment*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Mostly sunny / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other *No Further Action based ADEC Method 4 criteria– excluded from ROD*
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________________

3. **Current Overall Site Conditions**
   Remarks *In front of GSE building, flooding from some water source in driveway. Two abandoned car batteries next to site along building.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Former ground support equipment building is now the airport operations building. One story slab on grade, corrugated metal*.

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
   Remarks______________________________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A
   Remarks______________________________________

3. **Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A
   Remarks______________________________________

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks____	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks____	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Vapor Intrusion Condition Checklist

Site name: *SWMU 52 – LORAN station*	**Date of inspection:** *8/20/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 overcast*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*

Number of floors: *1* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Offices with generator/power annex. Busted windows and holes in walls, Portions have 20 foot ceilings and subfloors.*

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

---

Building #: *2* **Type of construction:** *slab on grade*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Communications building – wood walls and roof rotting away. Roof in poor condition*

Building surrounded by ☐ asphalt ☐ concrete ₦ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 52 – Former LORAN Station*	**Date of inspection:** *August 20, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light Breeze, Overcast / 55* F

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other____
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks <u>*Unused abandoned buildings*</u>____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks <u>*Abandoned buildings – one with antenna/power poles surrounding. Three old generators in generator / power building. Other remaining mechanical equipment. All three have belly tanks. "Highly flammable" yellow tank – appears empty, oil filtration unit, hot water tank, overhead hoist on track.*</u>

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures <u>*One communications building under antenna. One office and generator annex (boiler and barracks)*</u>

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks____

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A
   Remarks____

3. **Signs and other security measures** ☐ Intact ☒ Work Needed ☐ N/A
   Remarks <u>*No signage*</u>____

4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______________________________
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A	

Vapor Intrusion Condition Checklist

Site name: *SWMU 35*	**Date of inspection:** *8/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remarks *Storage shed for lubricants unsure the amount of usage, likely minimal.*

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

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Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

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Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

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Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____________________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SWMU 55- PW Trans Dept Waste Storage*	**Date of inspection:** *August 22, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Overcast / 50 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment ☐ Monitored natural attenuation
☐ Access controls ☐ Groundwater monitoring
☒ Institutional controls ☐ Marine tissue monitoring
☐ Soil/Sediment removal ☐ Ordnance clearing
☐ Free product recovery
☐ Other ____________________

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks____________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks____________________

3. **Current Overall Site Conditions**
Remarks *Property used for vehicle storage, tire storage. Appears to be a bone yard. Stained soil – approx 8 foot diameter near White Dodge truck 94-25458 (south of shed). Five car batteries next to shed (north side) wood debris. Drum with burned aerosol cans. Standing water in ditch adjacent to shed. Drums of lubricants poorly stored within shed.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *Corrugated metal shed on concrete slab. Unsure if it is used*.

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks____________________

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☒No ☐ N/A
Remarks____________________

3. **Signs and other security measures** ☐ Intact ☒ Work Needed ☐ N/A
Remarks *No signs locate. Many signs located near the site for other sites.* ____________________

4. **Institutional Controls**

Site conditions imply ICs properly implemented ☐ Yes ☒ No ☐ N/A
Site conditions imply ICs fully enforced ☐ Yes ☒ No ☐ N/A

Remarks____
____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**

Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____
____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)

☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____
____

2. **Tanks, Vaults, Storage Vessels**

☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____
____

3. **Monitoring and Recovery Wells**

☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *SWMU58 / SA 73*	**Date of inspection:** *8/20/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55 windy, foggy*

Inventory of Structures

Building #: *1* **Type of construction:** ***slab on grade***

Number of floors: *2* **Possible floors below grade?** [x] Yes [ ] No [ ] Unsure

Building occupied/in use [ ] Yes [x] No [ ] N/A

Remarks *Building 10348 – Former heating plant with day tanks and generators inside, subfloors and part of building is 1 story with 20 foot ceilings.*

Building surrounded by ₦ asphalt [ ] concrete ₦ Landscaping or bare ground

Building #: *2* **Type of construction:** *modular*

Number of floors: *1* **Possible floors below grade?** [ ] Yes [x] No [ ] Unsure

Building occupied/in use [ ] Yes [x] No [ ] N/A

Remarks *Building 10433 – small building housing valve pit – mostly subgrade - open*

Building surrounded by ₦ asphalt [ ] concrete ₦ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** [ ] Yes [ ] No [ ] Unsure

Building occupied/in use [ ] Yes [ ] No [ ] N/A

Remarks

Building surrounded by [ ] asphalt [ ] concrete [ ] Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** [ ] Yes [ ] No [ ] Unsure

Building occupied/in use [ ] Yes [ ] No [ ] N/A

Remarks

Building surrounded by [ ] asphalt [ ] concrete [ ] Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** [ ] Yes [ ] No [ ] Unsure

Building occupied/in use [ ] Yes [ ] No [ ] N/A

Remarks

Building surrounded by [ ] asphalt [ ] concrete [ ] Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure
Building occupied/in use ☐ Yes ☐ No ☐ N/A
Remarks____
____
Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SWMU 58 & SA73 – Heating Plant 6*	**Date of inspection:** August 20, 2010
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Windy, foggy / 55 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☒ Institutional controls
☐ Soil/Sediment removal
☒ Free product recovery *ended*
☐ Other____

☒ Monitored natural attenuation
☐ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks____

2. **Land use changes off site** ☐ Yes ₦ No ☐ N/A
   Remarks____

3. **Current Overall Site Conditions**
   Remarks *Building intact and in good condition. Asphalt road and gravel / bare ground surround. Five transformers lined up northwest of building 10433 some oily staining Black oily staining on the ground in cutout of building 10348 – hoses and conduit debris on the ground*.

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures *Two structures including the heating plant and a pumphouse*___

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks *One heating plant. Day tank. 275 gallon tank open.*____________________

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *Approximate 2.5 deep hole southwest of tank pits for apparent copper salvaging.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
   Remarks____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☐ Yes ☒ No ☐ N/A

Remarks *Approximate 2.5 deep hole southwest of tank pits for apparent copper salvaging.*

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☐ Properly secured/locked ☐ Good condition ☒ All required wells located
☒ Needs Maintenance ☐ N/A
Remarks *Well 12-120 erosion on below surface seal, 12-106 cracked surface seal, no monuments on 0.5-inch wells.*

VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Site Inspection Checklist

I. SITE INFORMATION

Site name: *SWMU 60 – Tank Farm A*	**Date of inspection:** *6/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☒ Institutional controls
☐ Soil/Sediment removal
☐ Free product recovery
☐ Other____

☒ Monitored natural attenuation
☒ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☒ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks____

3. **Current Overall Site Conditions**
Remarks Site is generally unused, booms are present along South Sweeper Creek for sheen control

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
If Yes, number & type of structures ________________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks____

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
Evidence of Well Installation? ₦ Yes ☐ No ☐ N/A

Remarks *Drilling & well installation conducted in 2010 by URS for petroleum investigation in the "Traffic Circle" area near Sweeper Creek.*

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
Remarks____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A

Remarks____
____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____
____

V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☐ N/A
Remarks____
____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A
Remarks____
____

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☒ Properly secured/locked ☒ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____
____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A

Vapor Intrusion Condition Checklist

Site name: *SWMU 61 Tank Farm B*	**Date of inspection:** *6/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Inventory of Structures

Building #: *1* **Type of construction:** *concrete walled building over UST*

Number of floors: *1* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Pumphouse above inactive UST last containing Mogas. Area is "below grade" but above the UST.*

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *slab on grade*

Number of floors: *1* **Possible floors below grade?** ☒ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks *Flooded building, appears to be a pumphouse or control building, building has been flooded since at least 1996.*

Building surrounded by ☐ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks__________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks__________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks__________

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** Yes No Unsure
Building occupied/in use Yes No N/A
Remarks____
____
Building surrounded by asphalt concrete Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 61 – Tank Farm B*	**Date of inspection:** *6/22/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☒ Institutional controls
☐ Soil/Sediment removal
☐ Free product recovery
☐ Other
☒ Monitored natural attenuation
☒ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:
☐ 2010 Landfill Monitoring Inspection Report
☒ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks

3. **Current Overall Site Conditions**
Remarks *Site is not used.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *Two pumphouses, one is flooded one is to an inactive tank*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

Remarks *Drilling conducted in 2010 by URS for petroleum* investigation

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks
	VI. MNA/GROUNDWATER MONITORING ☒Applicable ☐ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☒ All required wells located ☒Needs Maintenance ☐ N/A Remarks *Well redevelopment has been prescribed in well surveys.*
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Vapor Intrusion Condition Checklist

Site name: *SWMU 62*	**Date of inspection:** *8/25/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, light rain*

Inventory of Structures

Building #: *Approx 35* **Type of construction:** *manufactured on non-slab foundation*

Number of floors: *2* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remarks *Some housing units are vacant, others abandoned.*

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

---

Building #: *2* **Type of construction:** *slab on grade – concrete and metal*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☐ No ☒ Unsure

Building occupied/in use ☒ Yes ☐ No ☐ N/A

Remark Community center – store, restaurant, and offices.

Building surrounded by ☒ asphalt ☒ concrete ☒ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

---

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** Yes No Unsure

Building occupied/in use Yes No N/A

Remarks____

____

Building surrounded by asphalt concrete Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 62 – Housing Area Fuel Leak*	**Date of inspection:** August 25, 2010
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Light Rain / 45 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☒ Institutional controls
☒ Soil/Sediment removal
☒ Free product recovery *passive*
☒ Monitored natural attenuation
☒ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing
☐ Other____

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☒ 2010 Groundwater Monitoring Report
☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks____

3. **Current Overall Site Conditions**
Remarks *Grassy field in western portion – housing units. Parts of sandy cove are occupied. Eagle Bay is vacant. Product recovery system near McDonalds small excavation areas.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *Approximately 35 two story manufactured residential homes some of these are not occupied and in disrepair. Community building with a grocery store, restaurant, and offices.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks____

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☒ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☒ Yes ☐ No ☐ N/A

Remarks *Fiber optic lines have been installed in the housing area. Area 303 vapor wells*.__________

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks______	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______	
IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒ N/A		
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______	
V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A		
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks______	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______	
VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A		
1.	**Monitoring Wells** (natural attenuation remedy) ☒ Properly secured/locked ☒ Good condition ☐ All required wells located ☒ Needs Maintenance ☐ N/A Remarks *Site contains many wells. Yearly inspections are performed on many wells. Unused wells may require some work if they are to be used again.*______	
VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A		

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *SWMU 67 – White Alice PCB Spill*	**Date of inspection:** *August 21, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Heavy fog / 45 F*

Remedy Includes: (Check all that apply)

- ☒ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☐ Free product recovery
- ☐ Other______________________________
- ☐ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

3. **Current Overall Site Conditions**
   Remarks *Antenna and four gray boxes – Alaska Volcano Observatory instrumentation. Random bolts and metal debris surround footings. No evidence of recent excavation.*

4. **Building(s) located on site** ☐ Yes ☒ No ☐ N/A
   If Yes, number & type of structures ______________________________

III. ACCESS AND INSTITUTIONAL CONTROLS ☒Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks______________________________

2. **Excavation and Well Restrictions**

   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A

   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks *New gravel placed in a few areas for cap cover.*

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks *More detailed signage at the bottom of the hill reminding persons that excavation at the top of the hillis restricted would be helpful. Weather relentlessly batters the signs on top of the hill.*____________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks____	
	IV. COVERS, CAPPING, AND CONTAINMENT ☒ Applicable ☐ N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks *New gravel is evident in some areas*.____________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks____	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks____	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks____	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☐ Applicable ☒ N/A	

Vapor Intrusion Condition Checklist

Site name: *Tanker Shed*	**Date of inspection:** *8/24/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *55, sunny*

Inventory of Structures

Building #: *1* **Type of construction:** ***slab on grade – block & metal***

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☐ No ☒ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks_Subfloors are definitely possible to work on trucks.___________________________________

Building surrounded by ☒ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks____

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____

____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION	
Site name: *Tanker Shed*	**Date of inspection:** *August 24, 2010*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *Sunny / 55 F*

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery *ended*
- ☐ Other______________________________
- ☒ Monitored natural attenuation
- ☐ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☒ 2010 Groundwater Monitoring Report
- ☒ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
   Remarks______________________________

3. **Current Overall Site Conditions**
   Remarks *Asphalt and concrete pad adjacent to runway, currently unused. Containment berm filled with water. Product recovery equipment left onsite – tubing, skimmer knockouts, drums and pump boxes. Most equipment rusted and/or flooded.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
   If Yes, number & type of structures Tanker Shed - block and metal slab on concrete.

III. ACCESS AND INSTITUTIONAL CONTROLS ☒Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
   Remarks Fencing around treatment / recovery area has all fallen down.

2. **Excavation and Well Restrictions**
   Evidence of Excavation? ☐ Yes ☒ No ☐ N/A
   Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

   Remarks______________________________

3. **Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A
Remarks____

4. **Institutional Controls**
Site conditions imply ICs properly implemented ₦ Yes ☐ No ☐ N/A
Site conditions imply ICs fully enforced ₦ Yes ☐ No ☐ N/A

Remarks____

IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒N/A

1. **Overall Conditions**
Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A
☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control

Remarks____

V. FREE PRODUCT RECOVERY SYSTEM ☒ Applicable ☐ N/A

1. **Electrical Enclosures and Panels** (properly rated and functional)
☐ Good condition ☐ Needs Maintenance ☒ N/A
Remarks____

2. **Tanks, Vaults, Storage Vessels**
☐ Good condition ☐ Proper secondary containment ☒ Needs Maintenance ☐ N/A
Remarks *Equipment should be broken down, decontaminated, and disposed of.*__________________

3. **Monitoring and Recovery Wells**
☐ Properly secured/locked ☐ Good condition ☐ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VI. MNA/GROUNDWATER MONITORING ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)
☒ Properly secured/locked ☐ Good condition ☒ All required wells located
☐ Needs Maintenance ☐ N/A
Remarks____

VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

Site Inspection Checklist

I. SITE INFORMATION

Site name: *Yakutat Hangar 2039-B and 2039-C*

Date of inspection: *August 21, 2010*

Location and Region: *Adak Island, Alaska, Region 10*

EPA ID: *AK4170024323*

Agency, office, or company leading the five-year review: *NAVFAC NW*

Weather/temperature: *Foggy w/ rain / 45 F*

Remedy Includes: (Check all that apply)

☐ Cover or capping/containment
☐ Access controls
☐ Institutional controls
☒ Soil/Sediment removal
☐ Free product recovery
☐ Other____
☐ Monitored natural attenuation
☐ Groundwater monitoring
☐ Marine tissue monitoring
☐ Ordnance clearing

References Supplementing This Checklist:

☐ 2010 Landfill Monitoring Inspection Report
☐ 2010 Groundwater Monitoring Report
☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒No ☐ N/A
Remarks____

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks____

3. **Current Overall Site Conditions**
Remarks *Unmaintained building,former 6 bay garage front of building contains various pumps and skimmers for free product recovery, these should be decontaminated and disposed of.*

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures *Former Hangar which served as auto hobby shop, and recreational center.*

III. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☐ N/A
Remarks____

2. **Excavation and Well Restrictions**
Evidence of Excavation? ☐ Yes ☐ No ☐ N/A
Evidence of Well Installation? ☐ Yes ☐ No ☐ N/A

Remarks____

3.	**Signs and other security measures** ☐ Intact ☐ Work Needed ☐ N/A Remarks________________________________	
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☐ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☐ Yes ☐ No ☐ N/A Remarks________________________________	
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ☒N/A	
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☐ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks________________________________	
	V. FREE PRODUCT RECOVERY SYSTEM ☐ Applicable ☒ N/A	
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks________________________________	
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance ☐ N/A Remarks________________________________	
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks________________________________	
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks________________________________	
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A	

Vapor Intrusion Condition Checklist

Site name: *Yakutat Hangar UST sites (multiple)*	**Date of inspection:** *8/21/10*
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** *45, foggy with rain*

Inventory of Structures

Building #: *1* **Type of construction:** *slab on grade*

Number of floors: *2* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks Auto shop hangar (large)

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: *2* **Type of construction:** *slab on grade*

Number of floors: *1* **Possible floors below grade?** ☐ Yes ☒ No ☐ Unsure

Building occupied/in use ☐ Yes ☒ No ☐ N/A

Remarks Six bay garage small garage – waste oil burner & floor drain system present

Building surrounded by ☒ asphalt ☐ concrete ☒ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**

Number of floors: **Possible floors below grade?** ☐ Yes ☐ No ☐ Unsure

Building occupied/in use ☐ Yes ☐ No ☐ N/A

Remarks

Building surrounded by ☐ asphalt ☐ concrete ☐ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Building #: **Type of construction:**
Number of floors: **Possible floors below grade?** ▯ Yes ▯ No ▯ Unsure
Building occupied/in use ▯ Yes ▯ No ▯ N/A
Remarks____
____
Building surrounded by ▯ asphalt ▯ concrete ▯ Landscaping or bare ground

Site Inspection Checklist

I. SITE INFORMATION

Site name: Yakutat T-2039A	**Date of inspection:** 21 August 2010
Location and Region: *Adak Island, Alaska, Region 10*	**EPA ID:** *AK4170024323*
Agency, office, or company leading the five-year review: *NAVFAC NW*	**Weather/temperature:** Foggy w/ rain / 45 F

Remedy Includes: (Check all that apply)

- ☐ Cover or capping/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Soil/Sediment removal
- ☒ Free product recovery – *Ended*
- ☐ Other
- ☐ Monitored natural attenuation
- ☒ Groundwater monitoring
- ☐ Marine tissue monitoring
- ☐ Ordnance clearing

References Supplementing This Checklist:

- ☐ 2010 Landfill Monitoring Inspection Report
- ☐ 2010 Groundwater Monitoring Report
- ☐ 2010 Institutional Controls Inspection Report

II. GENERAL SITE CONDITIONS

1. **Land use changes on site** ☐ Yes ☒ No ☐ N/A
Remarks

2. **Land use changes off site** ☐ Yes ☒ No ☐ N/A
Remarks

3. **Current Overall Site Conditions**
Remarks *Unmaintained building, front of building contains various pumps and skimmers for free product recovery, these should be decontaminated and disposed of. Hydraulic lifts and pit inside hangar. Overpack drum full of PPE waste. Parts washer*.

4. **Building(s) located on site** ☒ Yes ☐ No ☐ N/A
If Yes, number & type of structures One large hangar

III. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. **Fencing/Gates** ☐ Intact ☐ Gates secured ☐ Work Needed ☒ N/A
Remarks

2. **Excavation and Well Restrictions**

Evidence of Excavation? ☐ Yes ☒ No ☐ N/A

Evidence of Well Installation? ☐ Yes ☒ No ☐ N/A

Remarks

3.	**Signs and other security measures** ☒ Intact ☐ Work Needed ☐ N/A Remarks______________________________
4.	**Institutional Controls** Site conditions imply ICs properly implemented ☒ Yes ☐ No ☐ N/A Site conditions imply ICs fully enforced ☒ Yes ☐ No ☐ N/A Remarks______________________________
	IV. COVERS, CAPPING, AND CONTAINMENT ☐ Applicable ₦ N/A
1.	**Overall Conditions** Site conditions indicate regular maintenance and inspection ☒ Yes ☐ No ☐ N/A ☐ Signs of erosion ☐ Signs of settlement ☐ Indicators of poor drainage control Remarks______________________________
	V. FREE PRODUCT RECOVERY SYSTEM ☒ Applicable ☐ N/A
1.	**Electrical Enclosures and Panels** (properly rated and functional) ☐ Good condition ☐ Needs Maintenance ☐ N/A Remarks______________________________
2.	**Tanks, Vaults, Storage Vessels** ☐ Good condition ☐ Proper secondary containment ☒ Needs Maintenance ☐ N/A Remarks_Remove storage tank from the site.______________________________
3.	**Monitoring and Recovery Wells** ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VI. MNA/GROUNDWATER MONITORING ☐ Applicable ☒ N/A
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ☐ N/A Remarks______________________________
	VII. VAPOR INTRUSION CONDITION CHECKLIST ☒ Applicable ☐ N/A

APPENDIX E

Support Documentation for Section 7.2

Table E-1
Adak No Further Action Sites with Soil Exceedances of Current Migration to Groundwater ARARs

Site Name	Chemicals Exceeding Current ARAR[a]	Maximum Value Detected (mg/kg)	Full Screening Value[b]	Detection Frequency	Total No. of Samples	No. of Exceedances	>2 X CUL	>10% Frequency of Exceedance	>Background Levels[c]	Notes (Sampling Date, Location of Maximum)	Notes
Petroleum Sites											
Artillery Battalion, USTs/ART-1 and ART-2	Arsenic	2	0.37	2/7	7	2	Yes	Yes	No	1993, ART-SP5 and S6 -6	
	Lead	63	40	2/7	7	1	No	Yes	Yes	1993, ART-SP5	
Clam Road Truck Fill Stand	Lead	53	40	5/5	5	1	No	Yes	Yes	1994, P2-U-S	
Contractors Pad UST T-1706 (Navy Pad)	Arsenic	1.3	0.37	4/4	4	4	Yes	Yes	No	1996, Y-5633-T1706-ES7 and ES8	
Drum Disposal Area at Tank Farm D	Arsenic	4.3	0.37	2/2	2	2	Yes	Yes	No	1994, VAL DRUMS 5 and 6	
	Cadmium	6.8	5	2/2	2	1	No	Yes	No	1994, VAL DRUMS 6	
	Lead	**103**	**40**	**2/2**	**2**	**1**	**Yes**	**Yes**	**Yes**	**1994, VAL DRUMS 6**	
Mount Moffett Used Oil Pit - Power Plant No.5	Arsenic	5	0.37	3/5	5	3	Yes	Yes	No	1994, MWOP 24	
	Chromium, Total	34.7	25	5/5	5	1	No	Yes	Yes	1994, MWOP 24	
Mount Moffett AST - Power Plant No. 5	**Xylenes, Total**	**22**	**6.3**	**4/4**	**4**	**2**	**Yes**	**Yes**	**NA**	**1996, Y-5564-10-S3**	**No continuous groundwater pathway**
Mount Moffett Power Plant No. 5 (Used Oil AST)	**2-Methylnaphthalene**	**22**	**6.1**	**6/6**	**6**	**4**	**Yes**	**Yes**	**NA**	**1996, AST-UO 32**	**No continuous groundwater pathway**
	Arsenic	2.6	0.37	7/9	9	7	Yes	Yes	No	1996, AST-UO 34	
	Benzo(a)pyrene	**0.14**	**0.04**	**1/6**	**6**	**1**	**Yes**	**Yes**	**NA**	**1996, AST-UO 34**	**No continuous groundwater pathway**
	Cadmium	5.2	5	6/9	9	1	No	Yes	No	1994, C TANK -23	
	Lead	59	40	9/10	10	4	No	Yes	Yes	1994, C TANK	
	Naphthalene	**14**	**3.6**	**6/6**	**6**	**4**	**Yes**	**Yes**	**NA**	**1996, AST-UO 33**	**No continuous groundwater pathway**
	Vanadium	76.6	58	6/6	6	3	No	Yes	No	1996, AST-UO 33	
Navy Exchange Building (UST 30033)	**Benzene**	**0.501**	**0.025**	**3/17**	**17**	**2**	**Yes**	**Yes**	NA	1997, SSN14	
	Toluene	11.6	6.5	7/17	17	1	No	No	NA	1997, SSN14	
	Xylenes, Total	**39.6**	**6.3**	**2/2**	**2**	**1**	**Yes**	**Yes**	**NA**	**1997, SSN14**	
NSGA Gas Station, Mogas and JP-5 ASTs	Arsenic	1.9	0.37	2/2	2	2	Yes	Yes	No	1996, NSGAGS-S1 -1	
	Xylenes, Total	**38**	**6.3**	**2/4**	**4**	**1**	**Yes**	**Yes**	**NA**	**1996, S7**	
Pipeline C	Xylenes, Total	11	6.3	2/5	5	1	No	Yes	NA	1994, 9PH5N4600	
Pumphouse 5 Area - Pipeline C	**Lead**	**402**	**40**	**11/11**	**11**	**7**	**Yes**	**Yes**	**Yes**	**1994, P2-Z**	
SWMU 12 - Quartermaster Road Disposal Area	Arsenic	17.1	0.37	9/21	21	9	Yes	Yes	No	1994, 70FT N TANK	
	Lead	**212**	**40**	**14/21**	**21**	**3**	**Yes**	**Yes**	**Yes**	**1994, UFILL PIPE**	
ROICC Contractor's Area (UST ROICC-1)	Arsenic	1.9	0.37	7/11	11	7	Yes	Yes	No	1995, ROIC EX 1 -11	
ROICC Pad UST No. 5	Arsenic	2.3	0.37	7/7	7	7	Yes	Yes	No	1995, 001 -14	
ROICC Pad UST No. 6	Arsenic	2.8	0.37	7/7	7	7	Yes	Yes	No	1995, ROI6-DIRTY -2	
ROICC Warehouse UST No. 4	Arsenic	1.8	0.37	6/10	10	6	Yes	Yes	No	1995, ROI4 EX 1 -13	
SA 87 – Old Zeto Point Wizard Station USTs	Arsenic	2.2	0.37	16/18	18	16	Yes	Yes	No	1995, ZETO1 EX 1 -15	
	Benzo(a)anthracene	0.5	0.4	2/9	9	1	No	Yes	NA	1997, 11-126	
	Benzo(a)pyrene	**0.3**	**0.04**	**1/9**	**9**	**1**	**Yes**	**Yes**	**NA**	**1996, 11-110**	
	Chromium, Total	40.6	25	18/18	18	3	No	Yes	Yes	1995, ZETO2 EX 1 -302	
	Lead	42.6	40	18/18	18	1	No	No	Yes	1995, ZETO2 EX 1 -302	
SA No. 85 - New Bailer Building	Arsenic	3.1	0.37	7/7	7	7	Yes	Yes	No	1995, 85-STOCKPILE -2	
SA No. 86 - Old Happy Valley Child Care Center	Benzene	0.11	0.025	1/35	35	1	Yes	No	NA	1994, HAPPY VALL -704	
	Lead	**269**	**40**	**32/32**	**32**	**4**	**Yes**	**Yes**	**Yes**	1994, HAPPY VALL -704	
Sand Shed	**Lead**	**135**	**40**	**6/6**	**6**	**1**	**Yes**	**Yes**	**Yes**	1994, SAND SHED 4	
Shack O-52	Arsenic	4.6	0.37	8/10	10	8	Yes	Yes	No	1994, 052-4	
	Lead	**360**	**40**	**16/18**	**18**	**11**	**Yes**	**Yes**	**Yes**	**1994, 052-2**	**No continuous groundwater pathway**
SWMU 1 - Andrew Lake Waste Ordnance Demolition Range	Antimony	7.5	3.3	2/14	14	1	Yes	No	Yes	1996, GS-200	
	Arsenic	12.7	0.37	14/14	14	14	Yes	Yes	No	1992, SS-9	
	Benzene	0.42	0.025	1/27	27	1	Yes	No	NA	1996, 10-144	
	Chromium, Total	35	25	6//14	14	1	No	No	Yes	1996, GS-200	
	Copper	547	330	14/14	14	1	No	No	Yes	1992, SS-9	
	Lead	**139**	**40**	**14/14**	**14**	**6**	**Yes**	**Yes**	**Yes**	1992, SS-9	Did not exceed RBSC in PSE 2, Batch 2 evaluation (U.S. Navy 1999b)
	Vanadium	**123**	**58**	**2/2**	**2**	**1**	**Yes**	**Yes**	**Yes**	1996, SOIL BAG	Did not exceed RBSC in PSE 2, Batch 2 evaluation (U.S. Navy 199b)
	Xylenes, Total	8.8	6.3	4/27	27	1	No	No	NA	1996, 10-144	

Table E-1 (Continued)
Adak No Further Action Sites with Soil Exceedances of Current Migration to Groundwater ARARs

Site Name	Chemicals Exceeding Current ARAR[a]	Maximum Value Detected (mg/kg)	Full Screening Value[b]	Detection Frequency	Total No. of Samples	No. of Exceedances	Than > 2 X CUL	>10% Frequency of Exceedance	> Background Levels[c]	Notes (Sampling Date, Location of Maximum)	Notes
SWMU 24 - Hazardous Waste Container Storage Area	Antimony	14.7	3.3	2/24	24	2	Yes	No	Yes	1993, RR134	
	Arsenic	5.1	0.37	24/26	26	24	Yes	Yes	No	1993, RR132 (OLD 132)	
	Chromium, Total	**55.8**	**25**	**25/26**	**26**	**4**	**Yes**	**Yes**	Yes	1993, RR135	Evaulated under RCRA
	Lead	76.9	40	25/26	26	6	No	Yes	Yes	1993, RR135	
	Vanadium	**140**	**58**	**24/24**	**24**	**23**	**Yes**	**Yes**	**Yes**	**1993, RR133 (OLD 133)**	**Evaulated under RCRA**
SWMU 55 - Public Works Trans. Dept. Waste Storage	**Antimony**	**8.1**	**3.3**	**6/21**	**21**	**6**	**Yes**	**Yes**	**Yes**	**1995, GRID 18**	**Did not exceed RBSC in PSE 2, Batch 2 evaluation (U.S. Navy 1996b)**
	Arsenic	10.6	0.37	32/41	41	32	Yes	Yes	No	1995, GRID 4	
	Chromium, Total	40.3	25	41/41	41	7	No	Yes	Yes	1995, 126BOREHOL	
	Lead	350	40	23/41	41	4	Yes	No	**Yes**	1995, GRID 21	
	Vanadium	99.7	58	41/41	41	22	No	Yes	No	1995, 126BOREHOL	
SWMU No. 22 - Drum Storage South of Tank Farm A	Benzene	0.06	0.025	1/26	26	1	Yes	No	NA	1994, 101	
SWMU 74 - Old Batch Plant	Arsenic	8.2	0.37	4/6	6	3	Yes	Yes	No	1990, T5	
	Copper	**4824**	**330**	**6/6**	**6**	**1**	**Yes**	**Yes**	**Yes**	**1990, T5**	**Exceeded RBSC in PSE 1, Batch 2, but risks were found to be acceptable (U.S. 1995b)**
SWMU35 - Ground Support Equipment Building (UST 27044)	**Xylenes, Total**	**75**	**6.3**	**3/5**	**5**	**2**	**Yes**	**Yes**	**NA**	**1996, 04-255**	
Tank Farm C Area	Lead	53	40	27/27	27	1	No	No	Yes	1994, P2-8	
Tank Farm D	Xylenes, Total	22	6.3	10/36	36	1	Yes	No	NA	1997, 16-416	
Tank Farm B - Tank Farm C Area	Benzene	0.66	0.025	3/75	75	3	Yes	No	NA	1997, 17-402	
	Lead	**2210**	**40**	**66/70**	**70**	**10**	**Yes**	**Yes**	**Yes**	1994, P4-10	
	Xylenes, Total	7.2	6.3	14/75	75	1	No	No	NA	1997, 17-402	
Mount Moffett Power Plant No. 5, USTs 10574 through 10577	Arsenic	1.2	0.37	2/2	2	2	Yes	Yes	No	1996, Y5564-5-017	
	Benzo(a)Anthracene	0.52	0.4	1/2	2	1	No	Yes	NA	1996, Y5564-5-017	
	Benzo(a)pyrene	**0.53**	**0.04**	**1/2**	**2**	**1**	**Yes**	**Yes**	NA	**1996, Y5564-5-017**	
	Benzo(b)fluoranthene	**0.82**	**0.4**	**1/2**	**2**	**1**	**Yes**	**Yes**	NA	**1996, Y5564-5-017**	
	Naphthalene	**42**	**3.6**	**2/2**	**2**	**2**	**Yes**	**Yes**	**NA**	**1996, Y5564-5-005**	
	Vanadium	69	58	2/2	2	1	No	Yes	No	1996, Y5564-5-017	
	Xylenes, Total	38	6.3	24/31	31	2	Yes	No	NA	1996, Y5564-5-005	
CDAA Complex - USTs 10580 and 10654	Arsenic	1.5	0.37	1/1	1	1	Yes	Yes	No	1996, 556403-0401-166	
NSGA - UST 10591	2-Methylnaphthalene	30	6.1	13/47	47	2	Yes	No	NA	1996, 12-182	
	Arsenic	**100.8**	**0.37**	**38/49**	**49**	**38**	**Yes**	**Yes**	**Yes**	**1991, B23**	
	Benzene	12	0.025	7/218	218	5	Yes	No	NA	1996, 12-150	
	Benzo(a)anthracene	2.9	0.4	5/66	66	3	Yes	No	NA	1996, Y556401-0331-267	
	Benzo(a)pyrene	2.2	0.04	6/66	66	3	Yes	No	NA	1996, Y556401-0331-267	
	Benzo(b)fluoranthene	4.3	0.4	5/66	66	3	Yes	No	NA	1996, Y556401-0331-267	
	Benzo(k)fluoranthene	4.3	4	6/66	66	1	No	No	NA	1996, Y556401-0331-267	
	Chromium, Total	32.2	25	45/49	49	2	No	No	Yes	1991, TP3	
	Ethylbenzene	70	6.9	67/218	218	2	Yes	No	NA	1996, 12-150	
	Lead	**187.1**	**40**	**42/52**	**52**	**7**	**Yes**	**Yes**	**Yes**	1991, SOFSTD	
	Naphthalene	31	3.6	18/66	66	4	Yes	No	NA	1996, Y556401-0331-267	
	Toluene	220	6.5	39/218	218	2	Yes	No	NA	1996, 12-150	
	Vanadium	89	58	26/26	26	13	No	Yes	No	1992, TP7	
	Xylenes, Total	660	6.3	95/221	221	12	Yes	No	NA	1996, 12-150	
NSGA Fire Station Oil/Water Separator - UST 10644	Arsenic	3.4	0.37	9/14	14	9	Yes	Yes	No	1994, SPOIL PILE	
	Chromium, Total	27.8	25	14/14	14	1	No	No	Yes	1994, SPOIL PILE -6	
Officer Hill - UST 31051-A O-59	Arsenic	4.1	0.37	6/6	6	6	Yes	Yes	No	1996, UST 31051A -13	
	Benzo(a)pyrene	**0.16**	**0.04**	**2/6**	**6**	**2**	**Yes**	**Yes**	NA	**1996, UST 31051A -12**	
	Vanadium	105	58	6/6	6	4	No	Yes	No	1996, UST 31051A -13	
Line Crew Building- UST T-2776	Arsenic	1.1	0.37	5/5	5	5	Yes	Yes	No	1996, Y-5633-T2776C-ES5 and ES8	
Shack O-69, Hillside Road - UST Tank B	Arsenic	14.9	0.37	2/6	6	2	Yes	Yes	No	1994, C TANK -2	
CERCLA Sites											
SA 75 - Cablevision Asphalt Storage Area	Arsenic	2.8	0.37	17/19	19	17	Yes	Yes	No	1991, 7108	
	Vanadium	**138**	**58**	**19/19**	**19**	**10**	**Yes**	**Yes**	**Yes**	**1991, 7118**	**Did not exceed RBSC in PSE 1, Batch 2 (U.S. Navy 1995b)**

Table E-1 (Continued)
Adak No Further Action Sites with Soil Exceedances of Current Migration to Groundwater ARARs

Site Name	Chemicals Exceeding Current ARAR[a]	Maximum Value Detected (mg/kg)	Full Screening Value[b]	Detection Frequency	Total No. of Samples	No. of Exceedances	Than > 2 X CUL	>10% Frequency of Exceedance	> Background Levels[c]	Notes (Sampling Date, Location of Maximum)	Notes
SA 77 - Fuel Division Area Drum Storage	Arsenic	6.3	0.37	10/10	10	10	Yes	Yes	No	1993, G9 -9	
	Chromium, Total	**78.3**	**25**	**10/10**	**10**	**6**	**Yes**	**Yes**	Yes	1993, G5 -5	
	Lead	352	40	16/20	20	6	Yes	Yes	Yes	1993, G6	Confirmation sampling from the 2007 remedial action closure report (U.S. Navy 2007c) did not identify any exceedances above the CUL of 400 mg/kg, nor did any sample exceed the current migration to groundwater ARAR of 40 mg/kg
	Vanadium	110	58	10/10	10	9	No	Yes	No	1993, G5 -5	
SA 92 - Waste Ordnance Pile/Fin Field	Arsenic	4	0.37	7/7	7	7	Yes	Yes	No	1996, MW-206	
	Cadmium	7.4	5	2/7	7	1	No	Yes	No	1994, TP-105 -105	
	Chromium, Total	32.5	25	7/7	7	1	No	Yes	Yes	1994, TP-105 -105	
	Vanadium	108	58	7/7	7	5	No	Yes	No	1996, MW-206	
SA 95 - Transformer Disposal Area	Arsenic	1.4	0.37	1/1	1	1	Yes	Yes	No	1994, 95-TBD -101	
	Lead	**168**	**40**	**1/1**	**1**	**1**	**Yes**	**Yes**	**Yes**	**1994, 95-TBD -101**	**Did not exceed RBSC in PSE 2, Batch 1 (U.S. Navy 1995a)**
	Vanadium	93	58	1/1	1	1	No	Yes	No	1994, 95-TBD -101	
Ski Lodge	Arsenic	5.6	0.37	1/2	2	1	Yes	Yes	No	1994, SKI LODGE -4	
	Cadmium	7.8	5	2/2	2	1	No	Yes	No	1994, SKI LODGE -5	
SWMU 3 - Clam Lagoon Landfill	Arsenic	3.1	0.37	7/7	7	7	Yes	Yes	No	1994, TBD -108	
	Thallium/Thallium-201/230	1	0.66	1/7	7	1	No	Yes	NA	1994, TBD -109	
	Vanadium	**163**	**58**	**7/7**	**7**	**5**	**Yes**	**Yes**	**Yes**	**1994, TBD -110**	**Did not exceed RBSC in PSE 2, Batch 1 (U.S. Navy 1995a)**
SWMU 30 - Magazine No. 4 Landfill	**Antimony**	**230**	**3.3**	**2/3**	**3**	**1**	**Yes**	**Yes**	**Yes**	**1994, TP-101**	**Noncancer risks were evaluated and found to be acceptable in PSE 2, Batch 1 (U.S. Navy 1995a)**
	Arsenic	4.2	0.37	3/3	3	3	Yes	Yes	No	1994, TP-101	
	Vanadium	78.7	58	3/3	3	3	No	Yes	No	1994, TP-101	
SWMU 5 - North Davis Road Landfill	Arsenic	1.8	0.37	5/5	5	5	Yes	Yes	No	1994, 5-TBD -111	
	Thallium/Thallium-201/230	**2.5**	**0.66**	**5/5**	**5**	**5**	**Yes**	**Yes**	**NA**	**1994, 5-TBD -108**	**Did not exceed RBSC in PSE 2, Batch 1 (U.S. Navy 1995a)**
	Vanadium	**149**	**58**	**5/5**	**5**	**5**	**Yes**	**Yes**	**Yes**	**1994, 5-TBD -108**	**Did not exceed RBSC in PSE 2, Batch 1 (U.S. Navy 1995a)**
SWMU 6 - Andrew Lake Drum Disposal Area No. 1	Arsenic	2	0.37	2/2	2	2	Yes	Yes	No	1996, ADAK- 903	
	Vanadium	64	58	2/2	2	1	No	Yes	No	1996, ADAK- 903	
SWMU 7 - Andrew Lake Drum Disposal Area No. 2	Arsenic	6.9	0.37	3/3	3	3	Yes	Yes	No	1994, WL-104	
	Vanadium	**227**	**58**	**3/3**	**3**	**3**	**Yes**	**Yes**	**Yes**	**1994, 7-TP-103 -103**	**COC in PSE 2, Batch 1, but risks were below 1 x 10^{-7} (U.S. Navy 1995a)**

Notes:
[a]Bolded chemicals exceed the cleanup levels (ARARS) by more than 2 times, have a frequency of exceedance of greater than 10%, and exceed background levels.
[b]Alaska Table B1. Method Two - Soil Cleanup Levels (Jan. 2009): Migration to Groundwater (mg/kg).
[c]Maximum detected values were compared to background values listed in Table 4-2 of the U.S. Navy groundwater study report (U.S. Navy 1995c).

Table E-2
Adak Risk Comparison of OU A ROD and EPA Exposure Durations Using Ratio Analysis for OU A CERCLA Sites

Exposure Population		Residential				Recreational				Occupational			
Site	**Exposure Medium**	**Cancer Risk Based on 15-Year Duration**	**Cancer Risk Ratio Based on 30-Year Duration**	**HI Based on 15-Year Duration**	**HI Ratio Based on 30-Year Duration**	**Cancer Risk Based on 5-Year Duration**	**Cancer Risk Ratio Based on 25-Year Duration**	**HI Based on 5-Year Duration**	**HI Ratio Based on 25-Year Duration**	**Cancer Risk Based on 5-Year Duration**	**Cancer Risk Ratio Based on 25-Year Duration**	**HI Ratio Based on 5-Year Duration**	**HI Ratio Based on 25-Year Duration**
SWMU 10	SS	6.00E-05	1.20E-04	0.07	0.14	9.00E-07	4.50E-06	<0.01	<0.5	3.00E-06	1.50E-05	0.01	0.05
SWMU 14	GW	2.00E-05	4.00E-05	2.1	4.2	--	--	--	--	--	--	--	--
	SL	2.00E-05	4.00E-05	--	--	--	--	--	--	1.00E-06	5.00E-06	--	--
	Total	4.00E-05	8.00E-05	2.1	4.2	--	--	--	--	1.00E-06	5.00E-06	--	--
SWMU 15	GW	3.00E-05	6.00E-05	0.4	0.8	--	--	--	--	--	--	--	--
	SD	7.00E-08	1.40E-07	<0.01	<0.2	7.00E-08	3.50E-07	<0.01	<0.5	--	--	--	--
	SL	4.00E-05	8.00E-05	<0.01	<0.2	6.00E-07	3.00E-06	<0.01	<0.5	2.00E-06	1.00E-05	<0.01	<0.5
	Total	7.00E-05	1.40E-04	0.4	0.8	7.00E-07	3.50E-06	--	--	2.00E-06	1.00E-05	--	--
SWMU 16	GW	4.00E-05	8.00E-05	--	--	--	--	--	--	--	--	--	--
	SD	--	--	--	--	3.00E-10	1.50E-09	--	--	--	--	--	--
	SS	--	--	--	--	5.00E-07	2.50E-06	<0.01	<0.5	1.00E-06	5.00E-06	<0.01	<0.5
	Total	4.00E-05	8.00E-05	--	--	5.00E-07	2.50E-06	--	--	1.00E-06	5.00E-06		
SWMU 17	GW	1.00E-04	2.00E-04	17	34								
	SD	1.00E-07	2.00E-07	<0.01	<0.2	1.00E-07	5.00E-07	<0.01	<0.5	--	--	--	--
	SW	3.00E-04	6.00E-04	28	56	1.00E-06	5.00E-06	15	75	--	--	--	--
	SL	3.00E-05	6.00E-05	0.3	0.6	2.00E-07	1.00E-06	0.01	<0.5	1.00E-06	5.00E-06	0.04	--
	Total	4.00E-04	8.00E-04	45	90	3.00E-07	1.50E-06	15	75	1.00E-06	5.00E-06	0.04	--
SWMU 55	GW	1.00E-04	2.00E-04	1	2	--	--	--	--	--	--	--	--
	SD	9.00E-08	1.80E-07	<0.01	<0.2	9.00E-08	4.50E-07	<0.01	<0.5	--	--	--	--
	SL	8.00E-07	1.60E-06	<0.01	<0.2	1.00E-08	5.00E-08	<0.01	<0.5	4.00E-08	2.00E-07	<0.01	<0.5
	Total	1.00E-04	**2.00E-04**	1	--	1.00E-07	5.00E-07			4.00E-08	2.00E-07	--	--
SA 76	SS	9.00E-05	**1.80E-04**	0.6	--	1.00E-06	5.00E-06	0.03	0.15	4.00E-06	**2.00E-05**	0.08	--
SWMU 2	SB	1.00E-05	2.00E-05	0.08	--					5.00E-07	2.50E-06	0.01	--
	SB	5.00E-05	1.00E-04	0.4	--					2.00E-06	1.00E-05	0.05	--
	SD	1.00E-08	2.00E-08	<0.01	<0.2	1.00E-08	5.00E-08	<0.01	<0.5	--	--	--	--
SWMU 4	**Total**	5.00E-05	1.00E-04	0.4	--	1.00E-08	5.00E-08			2.00E-06	1.00E-05	0.05	0.25
SWMU 52	SS	5.00E-05	1.00E-04	0.6	--	7.00E-07	3.50E-06	0.1	0.5	2.00E-06	1.00E-05	0.2	1
SWMU 20	SS	2.00E-05	4.00E-05	<0.01	<0.2	2.00E-07	1.00E-06	<0.01	<0.5	8.00E-07	4.00E-06	<0.01	<0.5
SWMU 21A	SL	1.40E-05	2.80E-05	--	--	4.00E-07	2.00E-06			2.50E-07	1.25E-06	--	--
SWMU 23	SD	7.00E-08	1.40E-07	<0.01	<0.2	7.00E-08	3.50E-07	<0.01	<0.5	--	--	--	--
	SS	1.00E-05	2.00E-05	7	14	3.00E-07	1.50E-06	0.3	**1.5**	6.00E-07	3.00E-06	0.3	**1.5**
	Total	1.00E-05	2.00E-05	7	14	3.00E-07	1.50E-06	0.3	1.5	6.00E-07	3.00E-06	0.3	1.5
SWMU 67	SD	--	--	--	--	4.00E-08	2.00E-07	--	--	--	--	--	--
	SS	--	--	--	--	7.00E-06	3.50E-05	--	--	2.00E-06	1.00E-05	--	--
	Total	--	--	--	--	7.00E-06	3.50E-05	--	--	2.00E-06	1.00E-05	--	--
SWMU 29	SD	7.00E-08	1.40E-07	<0.01	<0.2	7.00E-08	3.50E-07	<0.01	<0.5	--	--	--	--
	SB	3.00E-05	6.00E-05	0.6	1.2	--	--	--	--	2.00E-06	1.00E-05	0.1	0.5
	Total	3.00E-05	6.00E-05	0.6	1.2	7.00E-08	3.50E-07	<0.01	<0.5	2.00E-06	1.00E-05	0.1	0.5

Table E-2 (Continued)
Adak Risk Comparison of OU A ROD and EPA Exposure Durations Using Ratio Analysis for OU A CERCLA Sites

Exposure Population		Residential				Recreational				Occupational			
Site	**Exposure Medium**	**Cancer Risk Based on 15-Year Duration**	**Cancer Risk Ratio Based on 30-Year Duration**	**HI Based on 15-Year Duration**	**HI Ratio Based on 30-Year Duration**	**Cancer Risk Based on 5-Year Duration**	**Cancer Risk Ratio Based on 25-Year Duration**	**HI Based on 5-Year Duration**	**HI Ratio Based on 25-Year Duration**	**Cancer Risk Based on 5-Year Duration**	**Cancer Risk Ratio Based on 25-Year Duration**	**HI Ratio Based on 5-Year Duration**	**HI Ratio Based on 25-Year Duration**
		Subsistence				**Recreational**				**Occupational**			
Sweeper Cove	FISH	1.00E-03	2.00E-03	10	20	1.00E-05	5.00E-05	0.4	2	--	--	--	--
South Sweeper Creek	FISH	2.00E-04	4.00E-04	2	4	2.00E-06	1.00E-05	0.06	0.3	--	--	--	--
Kuluk Bay	FISH	1.00E-04	2.00E-04	6	12	5.00E-07	2.50E-06	0.3	1.5	--	--	--	--
	SD	2.00E-07	4.00E-07	<0.01	<0.02	2.00E-09	1.00E-08	<0.01	<0.5	--	--	--	--
	SW	--	--	1	2	--	--	0.05	0.25	--	--	--	--
	Total	1.00E-04	2.00E-04	7	14	5.02E-07	--	0.35	1.75	--	--	--	--

Note: Bolded values are chemicals of OU A institutional control sites with risk exceedances discussed in the main text under Section 7.2.2.